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STRIKE OPERATIONS:
CONTINGENCY OPERATIONS WITH
LIGHT-HEAVY-SPECIAL OPERATIONS FORCES

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A thesis presented to the Faculty of the U.S. Army
Command and General Staff College in partial
fulfillment of the requirements for the
degree

MASTER OF MILITARY ART AND SCIENCE

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by

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Fort Leavenworth, Kansas
1991

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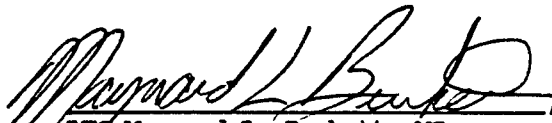
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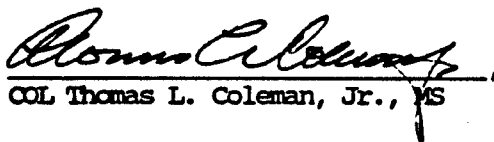
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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (references to this study should include the foregoing statement.)

ABSTRACT

STRIKE OPERATIONS: CONTINGENCY OPERATIONS WITH LIGHT-HEAVY-SPECIAL OPERATIONS FORCES, by Major Michael T. McCarthy, USA, 709 pages.

This study seeks to identify the doctrine, tactics and techniques unique to employment of light, heavy, and special operations forces as a mixed force. The doctrine, tactics and techniques are applied to a likely contingency scenario of a "Strike Operation" to provide a base model for future employment of mixed forces.

The review of literature demonstrates a critical void in doctrine, tactics, and techniques for employment of light and heavy forces as well as conventional and special operations forces. Existing literature does not address the most likely method of force employment the United States Army will use to fight with.

This thesis identifies unique aspects of each battlefield operating system for each component element of the force mixture. Also included are planning considerations to overcome the lack of doctrine, tactics and techniques necessary for addressing those aspects.

This thesis also contains a model for conducting a "Strike Operation" with light, heavy, and SOF forces. The model is based on actual training exercises and contingency operations conducted by light, heavy, and SOF elements.

This study concludes that light, heavy and special operations forces are a viable and lethal option for the conduct of contingency "Strike Operations" throughout the continuum of conflict.



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First and foremost I want to thank my wife, Paula. Her contribution is beyond measure. I cannot ever make up for the time spent away from home collecting observations and research material or the time spent preparing the manuscript. Without her support and assistance this thesis would not have been completed.

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CHAPTER ONE

DEFINITION OF THE PROBLEM

BACKGROUND

During the past decade the United States Army conducted a major reorganization of its combat forces to meet the challenges of the future. As the focus of the Army evolved, less emphasis was placed on preparation for combat operations in a European, high intensity conflict. Army leadership recognized the most likely conflict that United States military forces would be committed to would be regional contingency operations.

As Army leadership analyzed the force structure existing in 1978 it became obvious that a need existed for a strategically deployable force to conduct combat operations in low to mid intensity levels. To meet the need for such a force the Army selected one active duty infantry division (7ID), and one National Guard Infantry (29ID) division for reorganization as "Light Infantry" divisions. The Army also reactivated two additional divisions (6ID and 10ID[Mountain]) with a combination of active and reserve component elements.

The light infantry divisions were organized with thirty percent fewer soldiers than conventional infantry divisions. A ceiling of 10,500 personnel was established by the Army Chief of Staff. The light division would be very austere in terms of vehicles, equipment, and sustainability. The goal being a strategically mobile force capable of projecting a complete combat infantry division using 500 aircraft sorties.

As the concept for employment of light infantry forces matured, so did their capabilities. Originally designed for rapid employment against light enemy forces in a low to mid intensity conflict. Light forces began to face significant risk as potential threat regional forces developed capabilities to conduct mid and high intensity combat.

Rather than increase the capabilities of light forces the Army began to experiment with ways of mixing light and heavy forces to produce a force tailored to the threat. The initial results of mixed force operations at the National (NTC) and Joint Readiness (JRTC) Training Centers were abysmal. Neither part of the force could operate in an integrated and synchronized manner. As more and more training events occurred, it has become apparent to observers and participants alike that a void in doctrine, tactics, and techniques existed to facilitate operations involving light and heavy forces.

The light-heavy equation was further complicated as mixed forces were given responsibility for preparing for and conducting contingency operations involving joint and combined forces as well as Special Operations Forces (SOF). Several operations conducted in 1989 identified the need to develop doctrine, tactics, and techniques for conducting light-heavy-special operations forces (SOF) contingency operations. Immediately following Operation JUST CAUSE in December 1989 in Panama,

Army Chief of Staff, General Carl Vouno, directed the immediate development of an Army publication to address doctrine, tactics, and techniques, for brigade level contingency operations involving light, heavy and SOF elements.

STATEMENT OF PROBLEM

Current doctrinal publications do not address the employment of light, heavy, and special operations mixtures of forces in contingency operations. Until a publication is developed and fielded units will continue to have significant difficulty conducting contingency operations.

METHODOLOGY

This thesis is intended to create a doctrinal foundation for future light-heavy-SOF brigade level, regional contingency operations. The doctrinal foundation is based upon existing light, heavy, and special operations forces doctrine, and will be modified to allow forces to operate effectively within the unique synergism and dynamics of the mixed force battlefield. The resulting doctrine, commonly referred to as "emerging" doctrine will be applied to a model contingency mission scenario requiring application of brigade sized force consisting of light, heavy, and special operations forces.

DEFINITIONS

For the purpose of this thesis the following definitions are offered to facilitate understanding of the composition and organization of forces:

A. Light Forces: Those forces organized, equipped, and trained to conduct combat operations at the low to mid intensity level against lightly armed and equipped forces.

B. Heavy Forces: Those forces organized, equipped, and trained to conduct mobile warfare against mechanized and armored forces at mid to high intensity levels.

C. Special Operations Forces: Those forces organized, equipped, and trained to conduct specific types of armed combat requiring skills and training not generally given to conventional forces. This includes Army Ranger, Special Forces, and other similar forces of other component services such as Navy SEAL and Special Boat forces, and Air Force Special Operations Aviation.

ASSUMPTIONS AND LIMITATIONS

This thesis assumes that the United States Army will continue to employ light and heavy forces and SOF elements to conduct regional

contingency operations against hostile forces. Additionally this thesis assumes existing doctrine, training, organization, material, and leadership for heavy, light, and SOF will not change significantly.

Finally, it is assumed that commanders and staffs of light, heavy, and special operations forces understand the employment principles, doctrine, tactics, and techniques involving their own separate force.

Tactics, techniques, and procedures are very much dependant on the environment in which applied. Because of the nature of warfare there is no one solution applicable for every situation. This thesis will not attempt to provide a solution for every situation involving the employment of mixed forces on the battlefield, it will serve as a framework for the force commander to build from based on the mission, enemy, terrain, forces available, time, and politics.

This thesis will not focus on any specific regional or geographical area of operation. Each contingency operation is developed around unique requirements and situations. The composition and organization of the contingency force is based on the specific mission requirements.

This thesis will not address the tactics, techniques, and procedures for employment of forces below maneuver battalion level, nor will it include doctrine, tactics, techniques and procedures for operations not involving mixed forces. Finally, this thesis will not identify nor focus on capabilities or limitations of specific units or personalities.

METHODS AND PROCEDURES

The thesis is designed to provide a complete foundation addressing all battlefield operating systems as currently defined by the United States Army. The thesis will provide to the United States Army a complete manual for publication identifying doctrine, tactics, and techniques essential for employment of light, heavy, and SOF elements as an integrated and synchronized contingency force at brigade, and battalion level. To achieve this objective several conventions will be modified:

- A. Chapter 1, Introduction; will follow standard conventions for the MMAS Thesis.
- B. Chapter 2, Review of Literature; will focus on the primary doctrinal sources for each portion of the force. Each primary publication will be summarized and reviewed in terms of value and contribution in understanding unique requirements of the part of the force addressed in the publication. The bibliography will be included in this chapter. Chapter 2 will also acknowledge those individuals who made a significant contribution to the development of the first draft of the manual.
- C. Chapter 3, Study and Analysis; will consist of the identification of capabilities and limitations for each separate part of a brigade level light-heavy-SOF mixture conducting a contingency

operation. The analysis of this information will provide the context for the development of recommendations and planning considerations for light-heavy-SOF contingency force operations at brigade level. This chapter will serve as the foundation necessary to understanding the component parts of a light-heavy SOF force mixture, and will provide the basis for the application of forces to the model used in Chapter 4.

- D. Chapter 4, Application of Study and Analysis; will apply the doctrine, tactics, and techniques to a generic brigade contingency force operation model. The model is designed to portray likely phases of a contingency operation from deployment and force buildup to offensive and defensive combat operations through redeployment and host nation development.
- E. Chapter 5, Summary, Conclusions, and Recommendations; will address those conclusions developed during my examination of light-heavy-SOF operations. Also included will be recommendations for areas requiring further study or work outside the parameters of this thesis project.
- F. Appendixes; will provide information not available in the thesis, but important to understanding certain aspects of the work. Also included are an appendix with definitions of acronyms found throughout the thesis, and a listing of related

publications essential for understanding combat operations involving light, heavy, and special operations forces. These are included to assist future studies of this thesis topic.

Chapter 3, Chapter 4, and the Appendices are designed to be removed from the thesis and published as an Army publication. Due to the need to produce a comprehensive document suitable for use in a nonacademic environment, the thesis requires deviations from conventions normally associated with an thesis:

- A. Thesis length. The thesis was not constrained in length to ensure that the final product did not overlook aspects of light-heavy-SOF contingency operations that might adversely affect actual combat operations.
- B. Research and Analysis. Analysis and research are normally segregated and clearly identified as such in a conventional thesis. To ensure that future operational users of the thesis product are better able to understand the importance of both, a blending of research and analysis will be done throughout the work.

CHAPTER TWO

REVIEW OF LITERATURE

REVIEW OF LITERATURE

Formal literature and doctrine on light, heavy, and special operations forces conducting regional contingency operations as a mixed force is very limited. Literature and doctrine on employment of component elements of light, heavy, and special operations forces, and operations involving joint and combined operations is extensive. The purpose of this thesis is to begin to fill the void that currently exists in literature and doctrine.

In order correctly employ each component element of a contingency force it is first necessary to set the context defining capabilities, limitations, and employment principles. In order to understand the fundamental for each component existing doctrine was reviewed to identify critical capabilities and limitations. This information was then analyzed in terms of other component elements in an effort to identify crucial employment factors that were different from normal tactics and techniques for separate component elements. This synthesized information provides the basis for planning considerations found in the next chapter.

1. Research Methodology:

The process for reviewing doctrine was expedited during the initial research by contacting the proponent schools and centers for each battlefield operating system (BOS) component element of the light-heavy-SOF mixture and requesting identification of their primary doctrinal publication. The second step of the process was to study each publication and determine if it was in fact a primary publication, or a secondary source. As the primary sources were fixed, emphasis transitioned to identification of critical capabilities and limitations.

Once critical capabilities and limitations were isolated the research material was validated by the proponent schools and centers to ensure accuracy of interpretation. Due to time constraints placed on the research process most coordination was done telephonically with subject matter experts designated by each proponent.

After the proponents validated the capabilities and limitations, analysis of the results was conducted to identify differences between each component element in conducting contingency operations. When differences were identified the next step was to analyze the problem and develop a solution. The solutions were compared to research conducted by myself while assigned as a Combat Analyst (heavy-light and light-heavy) at the Center for Army Lessons Learned (CALL), and MAJ(P) Joseph Rozek of the Center for Army Tactics of the Command and General Staff College. Our

analysis was based on two years work studying the topic area and collecting observations from operations and exercises throughout the world by SOF, light-heavy, and heavy-light force mixtures.

2. Reference Sources:

The most critical problem faced in conducting research necessary to build the foundation for conducting light-heavy-SOF contingency operations was to find and evaluate existing doctrinal publications that were critical and essential to this specific type operation. Because of the volume of data initially identified by proponent subject matter experts it was necessary to break publications into three categories; primary, secondary, and related publications.

Primary publications are those reference publications that provided the essential capabilities and limitations for each component element of the force, as well as operational considerations deemed essential in contingency operations. These are the publications addressed in this chapter.

Secondary publications are those reference publications that provided essential capabilities and limitations for each component element of the force that were not different when employed by multiple components of the force. These sources are referenced in later chapters, and were included

because of their overall potential impact on a contingency operation if ignored.

Related publications are those reference publications that explain in greater detail specific elements of each component. The information contained in these publications assist future research and are identified in Appendix D of this thesis.

3. Primary Reference Publications:

FM 1-100, Army Aviation in Combat Operations, Feb 89.

This is a new publication defining aviation doctrine in terms of the airland battle. The publication provides a good doctrinal foundation for employment of Army aviation assets. This source includes a brief section on contingency operations. The primary focus of this work is on describing aviation's role in airland battle, components of Army aviation and aviation operations.

The value of this work is limited by an effort to not specifically address operations combat operations supporting heavy or light forces. The description of contingency operation support by Army aviation does not specifically address special requirements created by a regional

contingency operation.

FM 5-100, Engineer Combat Operations, Nov 83.

This manual serves as a capstone reference for employment of engineer assets. FM 5-100 is a comprehensive work detailing capabilities and limitations of different engineer forces across the spectrum of operational warfighting including contingency operations.

This was an outstanding source of information. The manual provided comprehensive explanations of planning factors, doctrine, tactics and techniques for employment of combat and construction engineer assets found on the modern battlefield. The manual does not address how to employ light and heavy engineer forces, or employment of assets from one component in support of another. The material available from this source was easy to synthesize to develop techniques and tactics supporting operations as outlined in the contingency model.

FM 6-20-40, Fire Support for Brigade Operations (Heavy), Jan 90.

FM 6-20-40 is a comprehensive guide for fire support operations in a variety of roles. Each facet of fire support for the heavy force is covered in great detail. Lacking from this work are considerations for

employment of heavy forces in a contingency role, or in conjunction with light forces.

In spite of its value with regards to heavy force operations, the absence details on the resolution of problems encountered when mixing light and heavy systems, or integrating SOF fire support assets severely reduces its value in light-heavy-SOF operations.

FM 6-20-50, Fire Support for Brigade Operations (Light), Jan 90.

Light fire support operations are described in great detail. Included in this work is an outstanding description of operations normally found during contingency operations. Lacking from this publication is an explanation of how to overcome the problems of combining light, non-automated field artillery with heavy, automated artillery assets.

This publication was of great value in identifying the special requirements placed on the fire support system during contingency operations. The value of this publication is diminished by it's lack of information of the integration of light and heavy fire support systems.

FM 7-20, The Infantry Battalion, Dec 84.

The primary focus of this manual is on providing the doctrinal foundation for infantry battalion operations. Light, mechanized, airborne, and Ranger battalion operations are addressed in great detail. Also addressed are the specific requirements placed on the mechanized infantry battalion when operating with armored forces. The publication also discusses in great detail the integration of components of the battlefield operating systems with each type of infantry battalion. This publication also includes a comprehensive section dealing with heavy forces with light forces subordinate to them.

This new publication was of great value in understanding the synchronization requirements of the light, heavy, and ranger battalions. The heavy-light portion was of exceptional value in understanding that specific mixture of forces which potentially can occur during a light-heavy-SOF contingency. A weakness of the book is the lack of information on light-heavy-SOF force mixtures and a lack of information on the synchronization of infantry forces with other battlefield operating systems in contingency operations.

FM 7-30, Infantry, Airborne, and Air Assault Brigade Operations, Apr 81.

This is an old manual that was written before the inception of light infantry. It provides a basic explanation of brigade operations involving nonmechanized forces. The major drawback of the publication is it's

orientation on the linear battlefield of central Europe.

The publication provided a good source of information on conventional employment of nonmechanized brigade level forces. The book is severely dated and provided little information in dealing with the unique synergism of a light-heavy-SOF mixture of forces conducting contingency operations.

FM 7-72, Light Infantry Battalion, Mar 87.

This book, although rescinded by the Chief of Staff of the Army, provided an outstanding source of information on how to fight a light infantry battalion. The book also provided an outstanding section on employment of light infantry forces with larger heavy forces.

In spite of institutional biases against the manual for use of nonstandard terms for offensive and defensive operations. the publication provided a plethora of valuable information of the employment of light forces. A limitation of this book is the lack of information on participation of light forces in contingency operations, or with heavy forces placed under the control of light forces.

FM 7-85, Ranger Unit Operations, Jun 87.

Ranger forces have an integral part in contingency operations, especially strike operations. This manual focuses on Ranger unit operations, capabilities and limitations.

Of great value was the section of Strike Operations. The information provided an outstanding outline and summary of each step in planning, preparing for, and executing a Strike or Raid by Ranger units. The book does have several serious drawbacks. Lacking is any information on operations with conventional forces. Conventional uses of Ranger forces is only briefly discussed. Finally the limitations of Ranger forces are ignored.

FM 31-20, Doctrine for Special Forces Operations, Sep 89.

This manual provided an outstanding overview of the role of special operations forces in contingency operations. Also included in this publication was a comprehensive overview of special operations organizations, capabilities, limitations, and employment considerations.

Very few Army publications discuss special forces or special operations forces; this presented a significant challenge in defining how special operations forces can enhance conventional force operations during a contingency operation. This document provided an excellent source of information on the role of special forces in contingency operations. This

allowed for comparison with conventional force doctrine to identify the integration of the two forces into a cohesive combat force. The explanation of contingency operations was of particular value in development of the model used in later chapters of the thesis.

FM 34-1, Intelligence and Electronic Warfare Operations, Jul 87.

FM 34-1 provides a basic foundation for the employment of intelligence and electronic warfare assets in support of tactical operations. It is primarily oriented toward capabilities normally available for division level operations. This publication also addresses operational considerations for a broad spectrum of military operations and environment, although contingency operations is not included. The publication does not contain information on special operations IEW.

This publication was invaluable as a source of information on doctrinal employment capabilities and limitations. The publication is primarily oriented toward capabilities and limitations of IEW assets within the heavy division. Lacking is an effort to provide the same depth of information on capabilities and limitations of IEW assets available to the light forces.

FM 44-100, US Army Air Defense Artillery Operations, Nov 88.

The Capstone manual for air defense provides an overview of planning requirements and consideration, capabilities and limitations of air defense systems, and operational considerations during contingency operations. The publication does not address integration of light and heavy air defense capabilities.

This source provided a good explanation of air defense operations. Although integration of light and heavy air defense systems was not included the design of the manual allowed for interpretation of probable methods of mixing light and heavy assets to optimize capabilities and diminish limitations that could adversely impact on light-heavy-SOF contingency operations.

FM 63-20, Forward Support Battalion, May 85.

This is an very useful source of information describing the support mechanism found in the heavy forces. This publication does not address operational environments, or support to heavy forces separated from their parent brigade.

This publication provided little useful information with regards to integration of light, heavy, and SOF. The publication completely ignores

support of light forces or operations in a contingency environment.

FM 71-1, Tank and Mechanized Infantry Company Team, Nov 88.

FM 71-1 provides the current doctrine for the employment of armor and mechanized infantry company/team. The focus of the work is on mobile warfare against enemy forces possessing similar capabilities.

The level of operations discussed in this work provided an outstanding reference for the employment of heavy forces at level expected in a light-heavy-SOF contingency operation. The information was essential to development of the operational model used in later chapters. The work does not address requirements for a contingency operation, however the overall value of the work was crucial to the overall research effort.

FM 71-2, Tank and Mechanized Infantry Battalion Task Force, Sep 88.

This is the key document for defining heavy force operations at the battalion task force level. This work addresses the mixing of mechanized and armored forces across a broad spectrum of conventional operations and environments. The work clearly defines capabilities, limitations, and employment considerations for the heavy task force.

This outstanding publication identifies the majority of critical areas for effective employment of the heavy task force. The information is invaluable when analyzing the light-heavy mixture from the light perspective. The work does not address contingency operations or operations in an undeveloped theater. This shortcoming does not negate the value of this publication. This was an essential document for research.

FM 71-3, Armored and Mechanized Infantry Brigade, May 88.

FM 71-3 provides insight into operational maneuver at the brigade level. Although the general focus of this work addresses mobile warfare in a European environment, it does contain substantial information on the dynamics of heavy forces employing light forces. The publication does not address contingency operations nor the integration of SOF with heavy forces.

The value of this document is outstanding. The publication provided one of the few doctrinal sources for the employment of heavy and light forces together. Analysis of this application of forces allowed for the development of corollaries for the employment of heavy forces by light forces.

FM 71-100, Armored and Mechanized Division Operations, Jun 90.

The capstone manual for all division operations is FM 71-100. It is the only reference publication available that addresses each type of division level force currently found in the United States Army. It is also the best source of information on contingency operations. The manual also addresses the employment of light forces by a heavy force. The publication also provides detailed information of the integration of air, naval and marine forces.

This manual provided the basic framework and definition for the research required for this thesis. The publication identifies the critical synchronization aspects for effective employment of combat, combat support, and combat service support assets. The level addressed in this manual is above the focus of the thesis. Interpellation of the information provided an outstanding start point for development the light-heavy-SOF model used in this thesis.

FM 71-101, Infantry, Airborne, and Air Assault Division Operations, Mar 80.

This classic publication provided an overview for the employment of many assets commonly found in light forces at the division level. Many of the capabilities identified in this document are not available in the

current light forces organizations. The value of this publication was the use in identifying the differences in capabilities, and developing means to compensate for them by exploiting capabilities of the heavy forces.

The publication was well beyond its usefulness in employing current forces on the modern battlefield. Written over ten years ago, the book does not address current operational focuses or force structures. Light forces were not conceived of until several years after this book was published. The Army does not fight the same way today that it envisioned fighting in 1979. As a source of current doctrine, tactics, or techniques this publication was of little value to the research process.

FM 71-123, Tactics, Techniques, and Procedures for Combined Arms, Heavy Brigade, Battalion, and Company, Nov 89.

FM 71-123 is the first of a new generation of Army publications providing tactics, techniques and procedures for the employment of combined arms forces. This publication describes combat operations for armored and mechanized forces at brigade, battalion and company levels. FM 71-123 describes synchronization of all battlefield operating systems and focuses on tactical operations in mid to high intensity conflict. The publication also includes an introduction to heavy-light operations.

The section on heavy-light operations was based on research,

information, and analysis provided to the authors of the publication by myself. As a consequence no new information on the employment of heavy-light forces was available. The value of this document was found in the detailed description of how best to employ heavy battalion and company level operating systems. The limitations of this fine work are the lack of information on contingency operations and light-heavy-SOF integration.

FM 100-10, Combat Service Support, Feb 88.

FM 100-10 provides the framework for supporting combat operations at all levels. The publication addresses manning, arming, fueling, fixing, and moving combat forces.

The value of this source is found in the doctrinal requirements and considerations for sustaining combat operations. In order to solve many of the sustainment problems identified when mixing light, heavy, and SOF, a thorough understanding of sustainment principles and doctrine is required. This proved to contain the foundation required for analyzing sustainment problems.

FM 100-15, Corps Operations, Sep 89.

Contingency operations are normally conducted under the control of a maneuver corps. This source provided an overview of the role of the contingency corps in terms of controlling operations. Additionally the publication addresses the employment of heavy and light forces and provides planning considerations for their employment.

The manual provided an excellent overview of contingency operations. Because of the focus level for the publication little direct informations could be drawn in terms of brigade level light-heavy-SOF contingency operations. The merit of this source was in validating analysis in terms of impacting on corps level operations.

FM 100-20, Military Operations in Low Intensity Conflict, Dec 90.

This joint publication provided an overview on the role of contingency operations in the operational spectrum of low intensity conflict. It does not address specific force mixtures, or operational aspect of contingency operations.

This source was useful in setting and understanding the context for military contingency operations. Also addressed of some value was the role of special operations forces in low intensity conflict, and

contingency operations. Also of use was the description of the integration of air, naval, and marine force, as well as the interaction with coalition forces.

FM 100-25, Doctrine for Army Special Operations Forces, Oct 90.

This new doctrinal publication provided an outstanding explanation of all components of special operations forces. Each component includes an explanation of capabilities, limitations, and employment consideration. The publication also identifies limitations that are beyond the capabilities of SOF to affect.

This document provides the best available publication on how to best employ SOF in contingency operations. Although integration of conventional forces is not included in this publication it was very critical to the research for this thesis.

FM 100-27/AFM 2-50, Doctrine for Joint Airborne and Tactical Airlift Operations, Jan 85 with C1 (Mar 85).

This publication provides joint doctrine, responsibilities, and procedures for planning, coordinating, and executing joint airborne and tactical airlift operations in support of conventional ground combat

operations involving Army and Air Force assets. Not included are operations involving special operations forces.

This source was invaluable in identifying the critical planning aspect of employing Air Force assets to support contingency operations. The information provided a start point for search for additional information from Air Force sources that better defined the role of the Air Force in supporting Army light-heavy-SOF contingency operations.

JCS Pub 3.05, Doctrine for Joint Special Operations, Jan 86.

This publication describes the mission, capabilities and characteristics of special operations forces across the operational continuum. This publication addressed naval, air and marine special operations forces as well as Army special operations forces. This joint publication was developed to bring together the special operations forces from all services under a unified employment doctrine.

The value of this publication was limited by its focus. JCS Pub 3.05 was essential in clarifying some of the unique capabilities and roles of special operations forces during contingency operations. The doctrine was intentionally left vague due to the sensitivity of joint operations doctrine. Consequently little actual research material could be extracted from this publication.

CHAPTER THREE

STUDY AND ANALYSIS

STUDY AND ANALYSIS

In order to understand how light, heavy, and special operations forces function as a synchronized, effective organization it is first necessary to understand the context for use of the forces. The context is derived from analysis of research conducted on each component element of the force mixture, and applied to the operational environment the force could be used in.

The first step in this process is to define the operational environment for a contingency operation. The operational context is the driving factor in defining the force mixture for tactical employment.

Once the context for the operation was defined then research efforts could be focused on the tactics and techniques needed to participate in the operation. The second step of the research process focused on identifying doctrinal capabilities, limitations, considerations, tactics, and techniques.

Due to the lack of doctrine, tactics, and techniques for a mixed force of light, heavy, and special operations forces, it was necessary to first define the capabilities and limitations for each component element of the force. Once isolated, analysis was done to identify the best probable

method of employing the force as a light-heavy-SOF combined arms team in accordance with the current Airland battle doctrine of the United States Army.

This chapter of the thesis is divided into two parts. Part One focuses on providing a background for contingency operations. Part Two provides a foundation for each component part involved in a Strike Operation. The foundation provides capabilities, limitations, and considerations for employing each part of the force with the others. Together this chapter provides the context for the use of light-heavy-SOF contingency operations, and serves as the doctrinal basis for application of the force in the contingency operation model.

PART ONE: INTRODUCTION TO CONTINGENCY OPERATIONS

A. Contingency operations are politically sensitive military actions requiring rapid deployment of military forces in support of national security policy, usually in conditions short of war. These operations are undertaken when limited national interests are at stake, and when direct and indirect diplomacy and other forms of influence have been exhausted or need to be supplemented by either a show of force or direct military action. The following are characteristics of contingency operations:

- * U.S. interests are at stake.
- * Generated by a crisis.
- * Time sensitive.
- * Political pressure for a quick, clear victory.
- * Uncertainty of the situation on the ground.
- * Requires tailored and packaged forces.
- * Involve joint and combined operations.

- * Political situation may impose a degree of centralized control.
- * Forces used will be constrained by the availability of sea and airlift.

B. There are nine major types of contingency operations. These are:

- * Show of force and demonstration.
- * Noncombatant evacuation operations.
- * Rescue and recovery operations.
- * Strikes and raids.
- * Peacemaking.
- * Unconventional warfare.
- * Disaster relief.
- * Security assistance surges.

- * Support to U.S. civil authorities.

1. Show of Force and Demonstration:

A show of force or demonstration is the deployment of a force to an area in the world to lend credibility to our nation's treaties and commitments. They increase our regional influence and show our resolve to use military force as an instrument of national power in that situation. A show of force demonstrates, bolsters, and reassures our allies. Examples include:

- * Forward deployment of military forces.
- * Combined training exercises.
- * Aircraft and ship port of calls.
- * The introduction and buildup of U.S. military forces.

Military forces conduct these operations within delicate legal and political constraints. Although actual combat is not the goal, the "political will" to employ these forces in combat if necessary, is vital to the success of the operation.

2. Noncombatant Evacuation Operations (NEO):

Military, political, or other emergency situations in a country may require the evacuation and/or relocation of threatened U.S. citizens, selected host nation personnel, and third country nationals.

If the chief of the U.S. diplomatic mission anticipates trouble, he will usually direct early withdrawal of dependents and nonessential personnel by ordinary transport. If this has occurred, only a minimum number of personnel will require emergency military evacuation. When the situation deteriorates to a critical point, the Department of State (DoS) will initiate requests for military assistance and obtain necessary clearances from other governments for the conduct of a NEO operation.

The evacuation may take place in a low threat environment, face a threat of violent opposition, or require combat action. The key to the success of this type of operation is a correct appraisal of the political-military environment in which the force will operate.

3. Rescue and Recovery Operations:

These are sophisticated actions requiring precise execution. They may be clandestine or overt. They include the rescue of U.S. or friendly foreign nationals, and the location, identification, and recovery of sensitive equipment or items critical to U.S. national security.

These operations usually involve special operations forces, but may require support from general purpose forces. They require timely intelligence, detailed planning, deception, swift execution, and extraordinary security measures.

4. Strikes and Raids:

Strikes and raids are attacks by ground, air, and naval forces to damage or destroy high value targets or to demonstrate our capability to do so. These operations involve the swift penetration of hostile territory to secure information, seize an objective, or destroy targets and end with a planned withdrawal. Strikes and raids create situations which permit our government to seize and maintain the political initiative.

Planners for this type of operation require precise, time sensitive, all-source intelligence. Forces are tailored for execution of the mission. The chain of command is streamlined. Time permitting, the strike/raid is fully rehearsed. Finally, the commander must understand the constraints and political sensitivity of this environment and recognize that local law and customs will influence his action. This operation requires:

- * Constant mission analysis.

- * Clear command and control relationship.
- * Effective communications facilities.
- * Joint and combined force liaison.
- * Effective public diplomacy and information.

5. Unconventional Warfare (UW):

These are military and paramilitary operations conducted in enemy held, enemy controlled, or politically sensitive territory across the operational continuum. It includes, but is not limited to, guerrilla warfare, evasion and escape, subversion, sabotage, and operations of low visibility, covert, or clandestine. U.S. military support to UW operations can include the use of SOF and general purpose forces (i.e. training and employment of indigenous personnel by U.S. SOF with CSS from general purpose forces). UW operations can be conducted in conjunction with and in support of other contingency operations, such as strikes and raids.

6. Disaster Relief:

These operations provide emergency assistance to victims of natural or man-made disasters abroad. They are responses to requests for

immediate help and rehabilitation from foreign governments or international agencies. They include refugee assistance, food programs, medical care, handling of deceased personnel, and other civilian welfare programs.

7. Peacemaking:

U.S. military forces are committed to peacemaking operations when it is in our national interest to stop a violent conflict and force a return to political and diplomatic methods. The U.S. undertakes peacemaking operations at the request of appropriate national authorities of a foreign state, or to protect U.S. citizens as part of an international, multilateral, or unilateral operation.

The political complexities of peacemaking require the available force be sufficient, but its use be applied with discretion. Rules of engagement (ROE) are apt to be restrictive because the purpose of the force is to establish and maintain law and order. Political considerations influence the size and composition, and employment of the force more than operational requirements do.

8. Security Assistance Surges:

The United States accelerates security assistance when a friendly

or allied nation faces an imminent threat. These surges usually focus on logistical support.

9. Support to U.S. Civil Authority:

These are U.S. military operations carried out in support of federal and state officials under, and limited by, the Posse Comitatus Act and other laws and regulations. These operations are usually limited to situations involving disaster assistance, civil disorder, threats to federal property, and other emergency situations. Congress has defined drug trafficking, illegal immigration, and customs violations as threats to national security warranting military support.

Military operations in this area will always be in support of other U.S. agencies. The mission in support of the counter-narcotics program includes military training teams, advisory personnel, logistic support, civic action, information, detection and surveillance operations, and intelligence support.

C. In contingency operations, force planners normally seek to maximize combat capability and reduce support to essentials. The force itself relies on strategic airlift and limited self-deployment for rapid deployment and resupply from the continental United States. Early air

superiority, continuous tactical air support, logistic resupply by air, and maintenance of air lines of communication are essential for such an operation to be successful. Sealift of outsized equipment, armored units, and bulk supplies may be necessary. Additionally, the Army component of a joint force will provide certain CSS commodities to other service components in the area of operations.

D. Contingency operations are filled with uncertainty. These operations require detailed flexible planning, a full awareness of the political and social realities in the area of operation, and comprehensive logistical and intelligence support planning. The following are planning considerations for a contingency operations.

1. All-Source Intelligence:

Intelligence is key to a successful contingency operation. All available collection assets focus on the commander's priority intelligence requirements. Collection, processing, and dissemination must be timely. The deploying force must have:

- * Accurate maps or satellite derived map products.
- * Dispositions and order of battle of all forces, both friendly and hostile.

- * Area specific factor.
- * City plans or satellite derived city imagery.
- * Complete details of utilities.
- * Personality profiles.
- * Current details on specific ports, airfields, roads, and bridges.
- * Current weather.

2. Command and Control:

The command and control of a contingency operation usually leads to the formation of a Joint Task Force (JTF) from assets within the unified command responsible for the contingency operation. Subordinate to the JTF will be Army forces (ARFOR), Air Force forces (AFFOR), Navy forces (NAVFOR), and a Joint Special Operations Task Force (JSOTF).¹

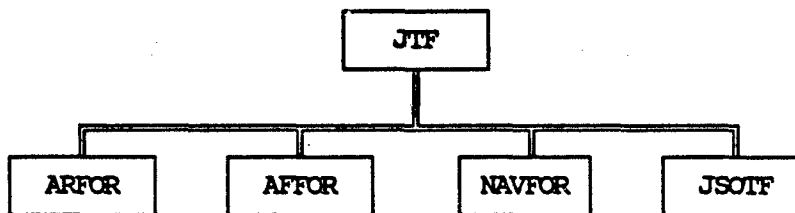


FIGURE 3-1-1. JOINT TASK FORCE ORGANIZATION.

3. PSYOP (Information Programs), Civil Affairs, and Public Affairs Programs:

Planning and execution of these programs must begin early and continue throughout the contingency operation. Successful execution of these programs will achieve US public and international support, exploit enemy vulnerabilities, and influence in-country target audiences. These programs require continuous preparation, regional expertise, and consistent coordination between civil and military organizations.

4. Logistical Support:

The setting for contingency operations may be in areas with little or no infrastructure and no forward deployed forces or supplies. There may be little or no communications, in place logistics, or host nation support. The number and types of ships and aircraft will be limited. The planning must develop tailored comprehensive support packages and the proper/flexible flow of these packages into the lodgement area.

5. Other Constraints:

Contingency operations are conducted for specific and limited purposes. National policy objectives must be clearly and consistently stated in order that supporting military objectives may be developed.

Rules of engagement (ROE) will be developed from the objectives. It is imperative that the constraints and restraints be clearly stated in the ROE. The ROE cannot be so restrictive that they inhibit the protection of the force. It is imperative that these ROE be clearly communicated to every soldier participating in the operation. Protecting the force while conducting operations and observing the ROE will place a great demand and stress on all participants. This environment demands well trained and disciplined soldiers.

E. Contingency operations are phased operations. Contingency operations can be conducted as part of a campaign, which is a series of military operations aimed to accomplish a strategic or operational objective in a given time and space. Phases begin with planning and preparation and end with the redeployment of the contingency force. The following five phases provide the general structure for a contingency operation and can be adjusted to fit the needs of a particular contingency.

- * Pre-deployment/crisis action.
- * Deployment/initial combat actions.
- * Force buildup/combat operations.
- * Decisive combat operations.

* Redeployment.

F. This thesis will focus on how to conduct strike/raid contingency operations involving SOF, light, and heavy forces. The remaining chapters will follow the five phases of a contingency operation. Only unclassified SOF doctrine, tactics, and techniques will be discussed in this book. In addressing light-heavy and heavy-light forces, the thesis makes the assumption that the reader knows and understands how to employ like type subordinate units. This book contains does not discussion how to employ "pure" light or heavy forces.

PART TWO: PREDEPLOYMENT/CRISIS ACTION

Section I. Introduction.

A. Predeployment and crisis action is the critical phase of a contingency operation. Success during the other phases is predicated on the successful planning conducted during this phase. The Joint Task Force and subordinate commands (JSOTF, ARFOR [Corps], AFFOR, and NAVFOR) must anticipate the requisite military conditions for success, sequence activities that will achieve those conditions, and resource accordingly. The objective is to select and tailor a force, and to quickly develop or refine operational concepts that will set the necessary conditions for subsequent phases of the operation.

B. The need to plan and prepare for strategic deployment in the compressed time-frame of a crisis will be a particularly demanding aspect of this phase. It means subordinate commands must provide the unified command several elements of critical information; the size of the force required to deploy, and the lift required to deploy it.

Intelligence Preparation of the Battlefield (IPB) is updated and current data relating to foreign intelligence, sabotage, subversion, and

terrorism is used to update the threat data base. This information is used in planning Operational Security (OPSEC) measures as well as for deception measures to ensure the element of surprise is maintained. Engineer and logistical requirements determined. Airlift and naval transport are identified and allocated. Operations security and deception are considered, and plans implemented from the beginning to retain the element of surprise. Command and control facilities and organizations to support the concept of operation are established.

C. At division, group, brigade, and lower, alert notification of unit personnel is made. Soldiers are recalled, assembled, and moved to marshalling areas where unit preparation begins. This includes mission analysis and the development of tactical concepts and force structures required to accomplish the mission.

D. Contingency operations require the force to be tailored to the specific mission, mobilized, then echeloned to permit simultaneous deployment, employment, and sustainment. The initial assaulting echelon must be organized with sufficient combat power to seize the lodgement area and begin combat operations. The echelon that immediately follows must be equipped to expand the lodgement and undertake decisive combat operations. The final echelon must provide sustainment for extended operations. Command and control must phase in early. All four functions

must be included in a theater commanders Operations Plan (OPLAN).

E. In every echelon, combat forces must integrate with command, control, communications, intelligence, fire support, engineer, air defense, and CSS. The force must rapidly establish a lodgement, take the fight to the enemy, and win. The enemy must be overwhelmed in every aspect to render him incapable of reacting effectively.

F. The echeloning of combat and combat support forces requires corresponding echeloning of CSS. The requirement for rapid transition to decisive combat or other operations dictate that CSS accompany or closely follow each echelon. The organization and quantity must be carefully determined to support the operation, but must not dominate the potentially scarce transportation assets or overwhelm the probably austere infrastructure.

Planning considerations for a contingency operation include, but are not limited to:

- * The mission.
- * Assumptions.

- * Concept of the operation.
- * Forces and assets available.
- * Operational aspects such as fire support, communications, nuclear and chemical warfare guidance, intelligence, psychological warfare operations, and unconventional warfare operations.
- * Enemy order of battle-ground, air, naval, space, and electronic.
- * Enemy NBC capability.
- * Enemy capability for unconventional warfare and psychological operations.
- * Geography, weather, and terrain.
- * The political situation and civil-military responsibilities.
- * Liaison officers.
- * Language requirements.

- * In-country facilities.
- * Local resources.
- * Limiting supplies to essentials.
- * Maintenance policy.
- * Health Services Support (HSS), to include rapid response medical teams, medical evacuation, and treatment.
- * Recovery and evacuation of deceased personnel.
- * Maintaining and securing necessary stockage levels.
- * Phasing in additional CSS as required.

G. Sections II and III provide a identify organizations most likely to be included in contingency operations involving light, heavy and special operations forces. Where appropriate, the mission organization, equipment, and considerations for employment are given.

Section II. Special Operations Forces (SOF)

A. Special Operations Forces (SOF) are normally joint by nature, operating with Army, Air Force and Navy special operations elements to accomplish Special Operations (SO) missions. SOF conducts missions in support of contingency operations. SOF participates in contingency operations either unilaterally or in conjunction with other military forces or government agencies. Regionally oriented SOF elements are normally located in the region of the crisis conducting Deployments for Training (DFTs), Mobile Training Teams (MTTs) or as a part of peacetime Security Assistance programs. The in theater SOF may provide the basis for expanded SOF participation during overt military operations. As conventional forces conclude overt military operations, they hand off activities to SOF elements to conduct Foreign Internal Defense missions to promote stability and nation building activities.

B. In addition to application of the Principles of War and AirLand Battle tenets, commanders and staffs employing SOF units must consider the following Special Operations Imperatives for successful employment:²

- * Objective: Objectives assigned SOF may often be as political, economic, or psychological as military. In war, Special Operations objectives focus on enemy military vulnerabilities without direct force-on-force

confrontation. In situations short of war, SOF may be assigned objectives that lead directly to the accomplishment of national or theater level objectives.

- * **Offensive:** SOF are inherently offensive. Although they may be deployed in the context of a strategically defensive effort, at the operational and tactical level, they are employed offensively.
- * **Mass:** SOF are not employed to mass in the conventional sense. Acceptance of attrition or force-on-force battle is not applicable to Special Operations. SO must concentrate their combat power, albeit subtly and indirectly, at decisive times and places. Care must be taken not to fragment the efforts of SOF against tactically attractive, but operationally or strategically irrelevant targets. Extensive planning and rehearsals are directed toward achieving a temporary superiority of force, or better yet, by avoiding engagements altogether. In SO, concentration of forces turns as much on the quality and focus of tactics, timing, and weaponry as on numerical quantity.
- * **Economy of Force:** SOF may be employed strategically as an economy of force measure to allow the concentration of other forces elsewhere. This may be particularly effective when

SOF are employed in conjunction with indigenous forces to create a "Force Multiplier" effect, or when SO are conducted for deception.

- * **Maneuver:** SOF do not maneuver against an enemy in the classic sense. With respect to SO, maneuver implies the ability to infiltrate and exfiltrate denied areas to exploit enemy vulnerabilities; and when employed, the ability to flexibly adjust the plan in order to concentrate and strike the enemy where and when he is most vulnerable, and to disperse to avoid his strengths. Flexibility in planning and execution is especially germane to Special Operations.
- * **Unity of Command:** To achieve unity of effort, SOF organize with clean, uncluttered chains of command. Layering between the headquarters assigning the mission and the operational unit that conducts the it is strictly avoided.
- * **Security:** Security is paramount in SO. Planning is often compartmented and planning staffs kept small. However, within a compartmented activity information must be shared by all. Intelligence, counterintelligence, cover and deception, and electronic warfare are all integrated throughout the planning and execution of SO to enhance security and achieve surprise.

- * Surprise: Achievement of surprise must be a principle talent of Special Operations Forces. Special operations require bold, imaginative, and audacious actions, tempered with patience and forethought. SOF achieve surprise by exploiting indirect approaches and doing the unexpected.

C. SOF Employment Criteria:

- * Employ SOF when nonmilitary operations are insufficient and other military (conventional) options are inappropriate or infeasible.
- * Employ SOF where results required are beyond the area of operations of conventional military forces.
- * Employ SOF:
 - ** With surgical precision to minimize collateral effects.
 - ** In a concealed or covered manner so that only the effects are detectable.
 - ** Indirectly through the military forces of a foreign government or political group.

D. Typical SOF organizations include the Joint Special Operations Task Force (JSOTF), a Special Forces Operations Base (SFOB), a Forward Operational Base (FOB), Advanced Operational Base (AOB), Special Forces Operational Detachment "A" (SFODA), Ranger Regiment, Ranger Battalion, SO Aviation Task Force, Psychological Operations Task Force, and a Civil Affairs Task Force.

E. A Joint Operations Task Force (JSOTF) is created by the theater Special Operations Command (SOC) or a Joint Task Force (JTF) to plan, conduct and support Joint Special Operations (SO) for a specific situation, mission or area basis. The JSOTF may be specifically established on a semipermanent basis or by augmenting an existing service organization's headquarters with elements of other services (i.e. an SFOB). The JSOTF exercises OPCON of forces chopped for the SO mission. The JSOTF is normally employed in a Joint Special Operations Area (JSOA).

F. Army Special Operations Forces (ARSOF) consist of Special Forces, Rangers, Special Operations Aviation, Civil Affairs, and Psychological Operations units. These units have unique organizations, employment considerations, capabilities and limitations.

G. Special Forces (SF).

1. The Special Forces Group (AIRBORNE) (SFGA) is a multipurpose, flexible organization capable of establishing a Special Forces Operational Base (SFOB) and providing C² and support for up to three Forward Operational Bases (FOBs). FOBs are established by the subordinate SF Battalion HQs (SF Operational Detachment-Charlie [SFODC]). The SF Company HQ (SF Operational Detachment-Bravo [SFODB]) establishes Advanced Operational Bases (AOBs) to expand the C² and support capabilities of the SFGA or is employed as a C² element in the area of operation. The Special Forces Operational Detachment "A" (SFODA) is the twelve man element specifically designed to conduct missions in support of US policy and military objectives.³

2. Special Forces Missions include:⁴

- * Unconventional Warfare.
- * Foreign Internal Defense.
- * Direct Action.
- * Special Reconnaissance.
- * Counterterrorism (for selected elements).

3. Special Forces Organizations:

a. Special Forces Group (Airborne).

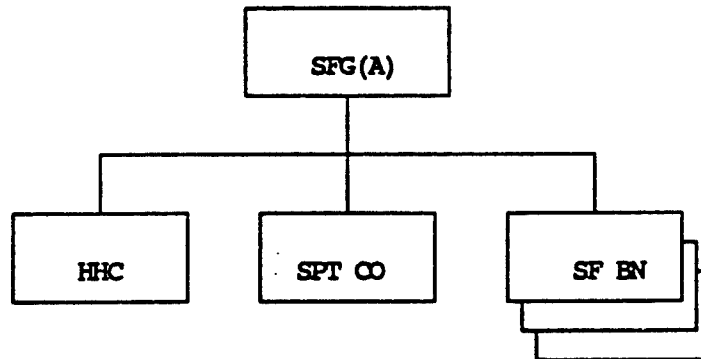


FIGURE 3-2-1. SFG(A) (TOE 31-800LO).

b. Special Forces Battalion.

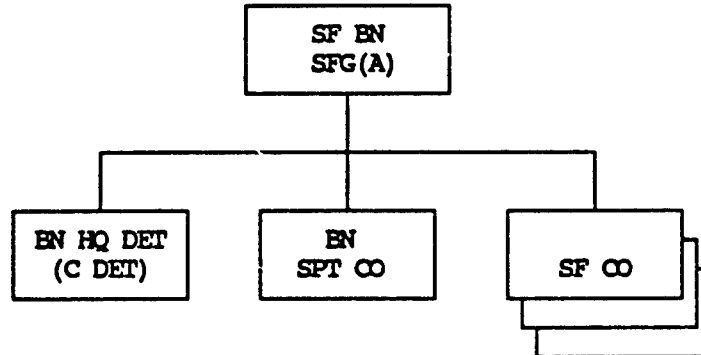


FIGURE 3-2-2. SF BN SFG(A) (TOE 31-805LO).

c. Special Forces Company.

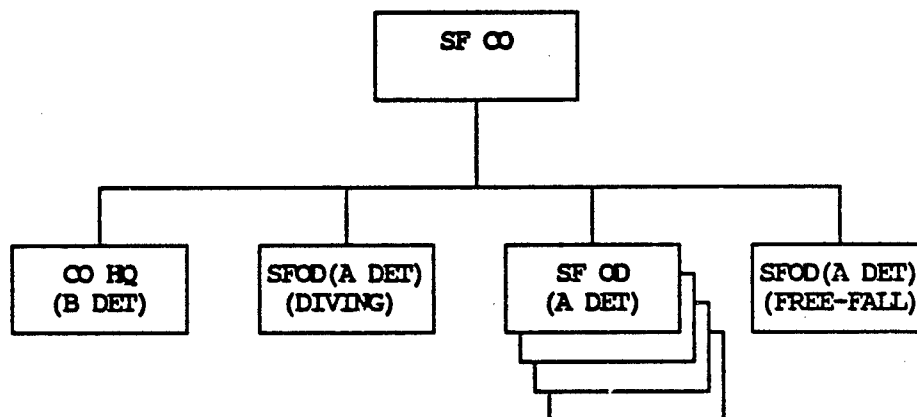


FIGURE 3-2-3. SF CO, SF BN (TOE 31-807LO).

d. Special Forces Operational Detachment "A" organization.

CDR CPT, 18A00	DET TECH WO, 180A0	OPs SGT MSG, 18Z50	ASST OPs and INTEL SGT SFC, 18F40
WPNS SGT SFC, 18B40	WPNS SGT SSG, 18B30	ENGR SGT SFC, 18C40	ENGR SGT SSG, 18C30
MED SGT SFC, 18D40	MED SGT SSG, 18D30	COMM SGT SFC, 18E40	COMM SGT SSG, 18E30

FIGURE 3-2-4. SFOD (A DET, SF CO).

4. Employment Considerations for Special Forces:

- * Highly trained individuals (language, cultural training, air/sea/land infiltration, and other SO Techniques).
- * Normally conduct deliberate operations.
- * Not designed to conduct sustained combat operations unilaterally due to the lack of organic firepower and tactical mobility.
- * Each SF Group is regionally oriented.
- * Can be deployed as a demonstration of national resolve.
- * Designed to train, assist, and advise indigenous military or paramilitary forces.

5. Special Forces Capabilities:

a. C² and Support Elements:

- * Functions as the Army component of a JSOTF or as a JSOTF when augmented by resources from other services.

- * Establish, operate, and support a SFOB and up to three FOBs.
- * Provide up to three C² elements (SFODBs) to corps or higher conventional HQs or to specific operational areas as a special operations command and control element (SOCCE).
- * Train and prepare operational elements for deployment.

b. Operational Elements:

- * Infiltrate and exfiltrate specified operational areas by air, land, or sea.
- * Conduct operations in remote areas and nonpermissive environments for extended periods of time with little external direction and support.
- * Develop, organize, equip, train, and advise or direct indigenous military and paramilitary.
- * Plan and conduct unilateral SF operations.
- * Train, advise, and assist US and allied forces or

agencies.

- * Perform other SO as directed by the National Command Authority or a unified commander.

6. Special Forces Limitations:

- * The SF Group depends on the resources of the Theater Army (TA) to support and sustain its operations.
- * The SF Group cannot conduct conventional combined arms operations on a unilateral basis. Its capabilities are limited to advising or directing indigenous military forces conducting this type of operation.
- * The SF Group does not have an organic combined arms capability. It habitually requires the support or attachment of other combat, CS, and CSS assets.
- * The SF Group cannot provide security for operational bases without severely degrading operational and support capabilities.

H. Ranger Regiment.⁵

1. The Ranger Regiment is a highly trained light infantry force consisting of the Regimental HQ and three Ranger Battalions capable of conducting deliberate or quick-response Special Operations or light infantry missions characterized by: detailed planning, coordination and preparation, decentralized execution, surprise, mobility, speed, violence of execution, shock, deception and audacity.

2. Ranger Organization:

a. Ranger Regiment.

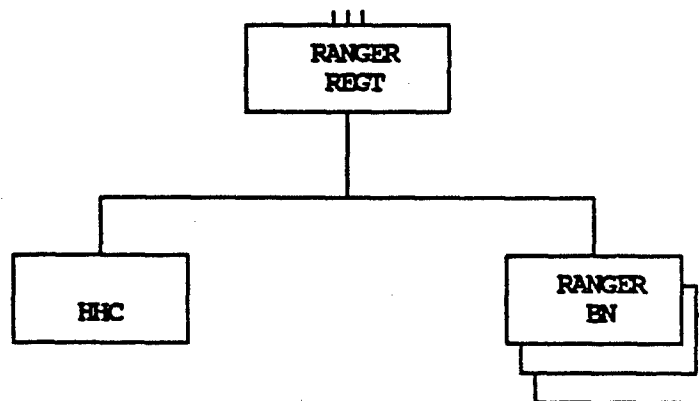


FIGURE 3-2-5. Ranger Regiment.

b. Ranger Battalion.

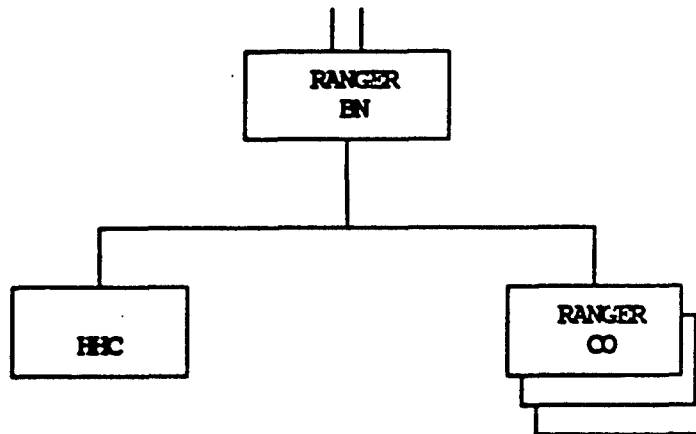


FIGURE 3-2-6. Ranger Battalion.

3. Ranger Employment Considerations:

- * NOT designed for sustained combat operations.
- * Normally employed against targets and under conditions requiring their unique skills.
- * Oriented on offensive operations.
- * NOT regionally oriented, but deployable worldwide.
- * NOT trained or organized to provide MITs.

4. Ranger Capabilities:

- * Deploys quickly to conduct operations on all types of terrain and in all kinds of weather.
- * Establishes a credible US military presence in any part of the world to demonstrate US interest or resolve.
- * Infiltrates and exfiltrates an operational area by land, sea, and air.
- * Conducts direct action operations to include raids, ambushes, and recovery operations.
- * Conducts special light infantry operations to include seizing and securing airfields, port facilities, communications, centers, command and control facilities, and critical choke-points on lines of communications.
- * Performs short-duration tactical reconnaissance in support of assigned ranger missions.
- * Operates for up to three days without resupply, and for longer periods when provided with accompanying or follow-on supplies.

- * Provides two ranger liaison teams to integrate the deployed ranger force into the logistical, intelligence, and operational systems of the supporting commander.
- * Exercises OPCON of other US combat, CS, and CSS units.
- * Conducts limited combat operations in an NBC environment.

5. Ranger Limitations:

- * Lacks the anti-armor firepower to conduct planned operations against enemy armored forces, especially in open terrain.
- * Tries to avoid the manpower-intensive, high-casualty battles associated with MOUT.
- * Has no organic transportation or organic casualty evacuation capability. It has only limited CSS resources, making it unsuitable for sustained combat operations without significant augmentation.
- * Has limited organic air defense capabilities.
- * Has only 60mm mortars for indirect fire support means.

I. Special Operations Aviation (SOA).

1. The mission of SOA is to plan and conduct special air operations in all operational environments in peace, conflict and war.⁶

2. SOA Organization:

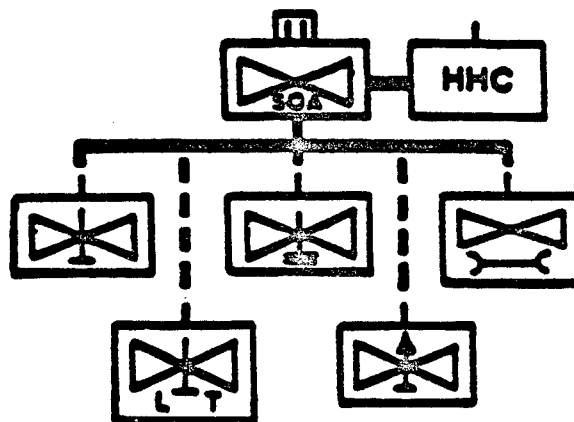


FIGURE 3-2-7. SOA Battalion Task Force.

3. SOA Employment Considerations:

- * Crews and aircraft have unique skills and systems for clandestine penetration.

- * Flight profile must avoid detection.
- * Slingload operations increase radar signature and reduce range.
- * Planning and direction requires direct face-to-face coordination with supported unit.
- * Plan for air combat operations. SOA Attack Helo may protect SOA and surface elements.
- * Joint suppression of enemy air defense (J-SEAD) must support SOA without compromising clandestine penetration.
- * Conducts Joint Air Attack Team (JAAT) operations in denied or sensitive territory to support SO or as part of a joint second echelon attack (J-SAK) operation.
- * Support special operations in urban terrain.
- * Conduct combat search and rescue (CSAR) in support of SO missions.
- * Conduct MEDEVAC of SOF casualties as a primary mission or on the return flight of another mission.

- * Requires near real-time intelligence during mission planning and execution.
- * SOA mission planning dictates collocation with supported unit.
- * SOA special operations peculiar Class IX and maintenance support.

4. SOA Capabilities:

- * Possesses unique skills and systems for clandestine penetration of hostile airspace.
- * Can perform continuous operations during visual and marginal weather conditions and during instrument weather conditions.
- * Can strategically self-deploy (medium and assault helicopters only) and conduct joint shipboard operations.
- * Can perform AVUM and AVIM on all assigned aircraft, armament, and avionics.
- * Can perform unit maintenance on all other organic equipment.

5. SOA Limitations:

- * Depends on Theater Army (TA) to provide manpower, special tools, and test, measurement, and diagnostic equipment to perform decentralized maintenance support beyond organic capabilities during wartime and contingency operations.
- * Expend large quantities of aviation fuel and ammunition during sustained operations.
- * Is designed to operate from a secure location.
- * Has limited EW capabilities.
- * Has a consolidated food service section at battalion level only.
- * Has limited medical capabilities.
- * Depends on a supported unit for all-source intelligence and aviation weather data.

J. Civil Affairs (CA) Support.

1. Based on an analysis of METT-T-P, a Civil Affairs Direct Support Team is normally placed in support of a separate brigade or equivalent SOF unit.⁷ This team is normally composed of up to four personnel who augment the staff of the supported unit. The Civil Affairs Direct Support Team's mission is to support the commander in the conduct of military operations to include:⁸

- * Advise and assist the Commander in fulfilling his legal and moral obligations IAW international laws and agreements.
- * Identify and coordinate for local resources, facilities and support.
- * Minimize civilian interference with U.S. military operations.
- * Supplement the intelligence gathering effort from civilian sources.
- * Serve as the staff focal point for cultural considerations impacting on military operations.

2. Civil Affairs Capabilities:

- * Provides language and area qualified functional experts.
- * Exploits hostile political, economic, social, and cultural and ideological weaknesses.
- * Advises and assists military forces planning and coordinating civic action programs into foreign internal development plans (FID).
- * Provides civil assistance to US sponsored government organizations.
- * Advises and assists in planning and conducting population and resource control programs.

3. Civil Affairs Limitations:

- * Does not have organic communications capabilities for dispersed elements; relies on supported unit.
- * Has only minimal capability for combat operations.
- * Has limited organic transportation, no organic casualty

evacuation capability, and limited CSS resources, making it unsuitable for sustained independent operations without significant augmentation.

K. Psychological Operations (PSYOP) Support.⁹

1. The mission of Army PSYOP forces is to plan, conduct, and support three categories of PSYOP: strategic, battlefield, and consolidation. The PSYOP Group tailors its resource to satisfy the PSYOP needs of the supported conventional or Special Operations Headquarters. A Tactical Dissemination Platoon is normally placed in support of a separate brigade, or equivalent SOF unit. The platoon consists of two Audiovisual (AV) Teams and three Loudspeaker Teams. The AV teams perform AV dissemination of PSYOP products and have a limited print capability. The loudspeaker teams conduct loud-speaker operations and develop PSYOP in support of tactical operations, and civil-military operations.

2. PSYOP Employment Considerations:¹⁰

- * Most PSYOP operations are joint in nature, with approval of PSYOP themes being approved at the CINC or JTF level.
- * Conducts and provides a PSYOP area assessment.

- * Facilitates gaining the support of the target population.
- * Provides close and continuous PSYOP support to maximize the effect of CA operations.
- * Informs the world community of U.S. intent and goodwill.

3. PSYOP Capabilities:

- * Loudspeaker teams can conduct tactical deception to support offensive or defensive operations.
- * Loudspeaker teams can support CA teams to influence or control civilian/noncombatant/neutral personnel during direct action contingency operations.
- * Provides continuing analysis of political and cultural factors to help maximize political and psychological effects of the operation.

4. PSYOP Limitations:

- * Dependent on supported unit for intelligence support to develop effective tactical PSYOP.

- * Dependent on supported unit for communications to coordinate with higher and adjacent PSYOP elements.
- * Dependent on supported unit for CS/CSS of Tactical Dissemination Platoon.
- * OPSEC considerations may preclude PSYOP exploitation of ongoing operations.

L. Predeployment Activities.

1. During predeployment, SOf conducts detailed mission analysis and planning in preparation for execution of the specific contingency missions. This includes task organization of SOf elements and pre-positioning of forces. In-theater SOf may conduct liaison or coordination with host-nation forces to facilitate follow-on SOf and conventional units, and assist in development of intelligence to support mission planning. SFODAs are selected to conduct DA and SR missions prior to initiation of overt military operations based on their regional orientation, language capability, specialized training, and their ability to conduct clandestine infiltration (land, sea, and air). Selected SFODAs prepare for direct action missions to support the Ranger TF penetration of the target nation (i.e. radar) and SFODA special reconnaissance missions prepare to provide real-time intelligence on the Ranger targets and OPFOR

reaction forces. Ranger units are selected to conduct rapid, surgical strikes, while minimizing collateral damage to facilities or noncombatants. CA and PSYOP elements are provided to the Ranger Task Force to minimize noncombatant interference or collateral damage. USAF and SOA assets are selected to provide clandestine infiltration and support of SOF elements. SOF elements to be committed are isolated to conduct detailed mission planning and rehearsals at home station or in a Remote Marshalling Base (REMAB).

2. Considerations by Battlefield Operating Systems (BOS) for the employment of SOF during the Predeployment Phase of contingency operations:

a. Intelligence, Electronic Warfare (IEW).

- * Requires timely and detailed intelligence for deliberate planning.
- * Special Reconnaissance mission planning requires early identification of PIRs.
- * SOA requires all-source intelligence and aviation weather data for planning.
- * SOA requires EW support for planning and execution of

clandestine infiltration.

- * PSYOP requires timely intelligence to prepare and update PSYOP themes against target audience.

b. Maneuver.

- * Joint support for pre-positioning and deployment. (CA, PSYOP and combat control teams are pre-positioned with the Ranger TF; Ranger Company and SOA support are deployed to the remote marshalling base [REMAB].)
- * SOA self-deploy medium and assault helicopters to REMAB.
- * JSOTF ADVON conducts site survey.

c. Mobility, Countermobility, Survivability.

- * SOF units cannot provide security for their operational bases without severely degrading their operational and support capabilities.
- * SOF units have a limited capability to operate in an NBC environment.

- * OPSEC and security considerations must be balanced against the signature of joint rehearsals for synchronization.

d. Fire Support.

- * SF has the capability to employ direct and indirect fire weapons.
- * Rangers have 60mm mortars and 90mm recoilless rifles in the Weapons Platoon of a Ranger Company.
- * Ranger and SF conduct detailed coordination for AC-130 fire support.
- * SOA attack helicopters support SOF.
- * Use of PSYOP elements to disrupt and demoralize enemy target population by leaflet or loudspeaker operations.
- * Ranger TF plans for use of PSYOP loudspeakers to control civilian populace and minimize interference with military operations.

- * Plans for the use of PSYOP loudspeakers to support tactical deception operations.

e. Air Defense Artillery (ADA).

- * SF, CA, and PSYOP units have no organic ADA.
- * SOA attack helicopters have limited air-to-air capability.
- * Rangers have limited ADA capability (MANPADS).

f. Combat Service Support (CSS).

- * Long-term sustainment of SOF must be considered and planned early due to their limited organic CSS capabilities.
- * Ranger units have no organic transportation or casualty evacuation capabilities.
- * Ranger units have very limited CSS resources, and cannot conduct sustained combat without significant augmentation.

- * SOF maximizes use of host nation (HN) facilities, transportation and support.
- g. Command and Control (C²).
- * Tailor C² and forces to meet requirements of MEIT-T-P. (Political implications, terms of reference/rules of engagement, long-term political objectives, controlled psychological effects, unique mission capabilities, minimize HQ layering.)
 - * Joint and interagency planning and execution between ARSOF, AFSOF, and NAVSOF.
 - * Deliberate planning process (isolation, mission preparation, and rehearsals).
 - * SOF communications systems (TACSAT, TSC-99, HF Burst) are not compatible with most conventional tactical communications systems. Ranger LNO teams and Special Operations Command and Control Elements (SOCCE) are employed to provide liaison and communications with conventional headquarters when required.

Section III. Light/Heavy Forces

A brigade headquarters serves as the base for a division assault force and is complemented with appropriate combat, CS, and CSS units. This brigade is maintained at a high state of readiness to meet the division's initial deployment requirement. The other brigades in the division maintain various stages of readiness and deploy after the lead brigade. The brigade headquarters is organized to facilitate command, control, and communications for all assigned, and attached combat, combat support, and combat service support elements.

A. Maneuver Forces—Heavy.

1. Infantry Battalion (Mechanized) (Bradley (M2) Equipped).

a. Mission: To close with the enemy by means of fire and maneuver to destroy or capture him or repel his assault by fire, close combat, and counterattack.

b. Organization:

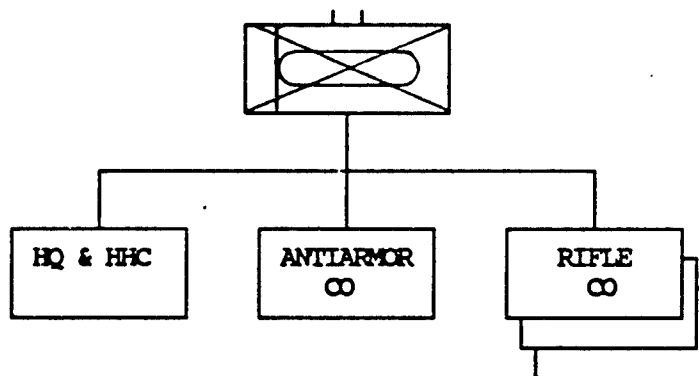


FIGURE 3-2-8. Mechanized Infantry Battalion (Bradley).

c. Capabilities:

- * Provides a base of fire and maneuver.
- * Closes with the enemy in order to destroy or capture him.
- * Repels enemy assaults by fire, close combat, and counterattack.
- * Seizes and holds terrain.
- * Maneuvers in all types of terrain and under all climatic conditions.

- * Provides anti-armor protection within the capabilities of the Bradley fighting vehicle (BFV).
- * Conducts combat operations under limited visibility conditions, employing night vision devices, vehicle thermal sights, and surveillance equipment.
- * Provides organic indirect fire support (107mm [4.2"] mortar).
- * Provides battalion reconnaissance support.
- * Provides unit administration and logistics support to assigned or attached units.
- * Provides command, control, and staff planning and supervision of operations of organic and attached elements.
- * Capable of rapid movement and limited penetrations.

d. Limitations:

- * Mobility and firepower are restricted by urban terrain, jungles, forests, steep and rugged terrain, and

significant water obstacles.

- * Consumption of Classes III, V and IX are high.
- * Small dismount strength.

2. Headquarters and Headquarters Company.

a. Organization: See FIGURE 3-2-9 thru 3-2-17.

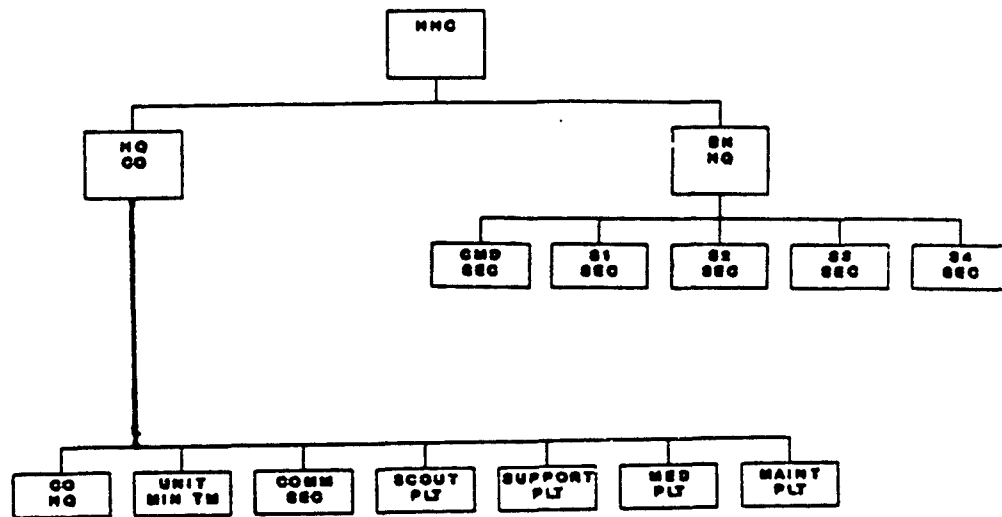


FIGURE 3-2-9. HHC, MECHANIZED BATTALION (BRADLEY).

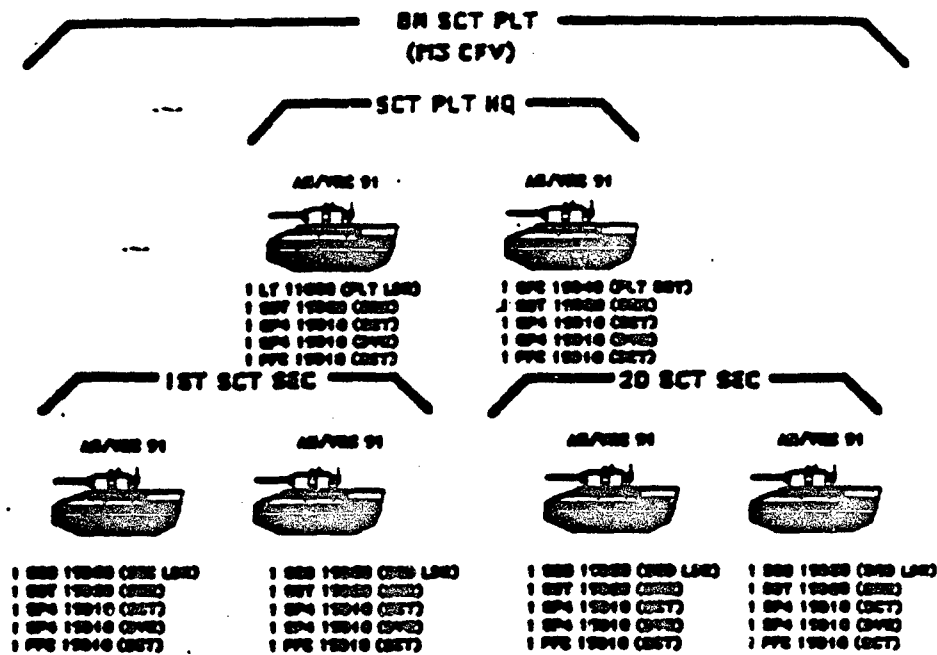


FIGURE 3-2-10. BATTALION SCOUT PLATOON.

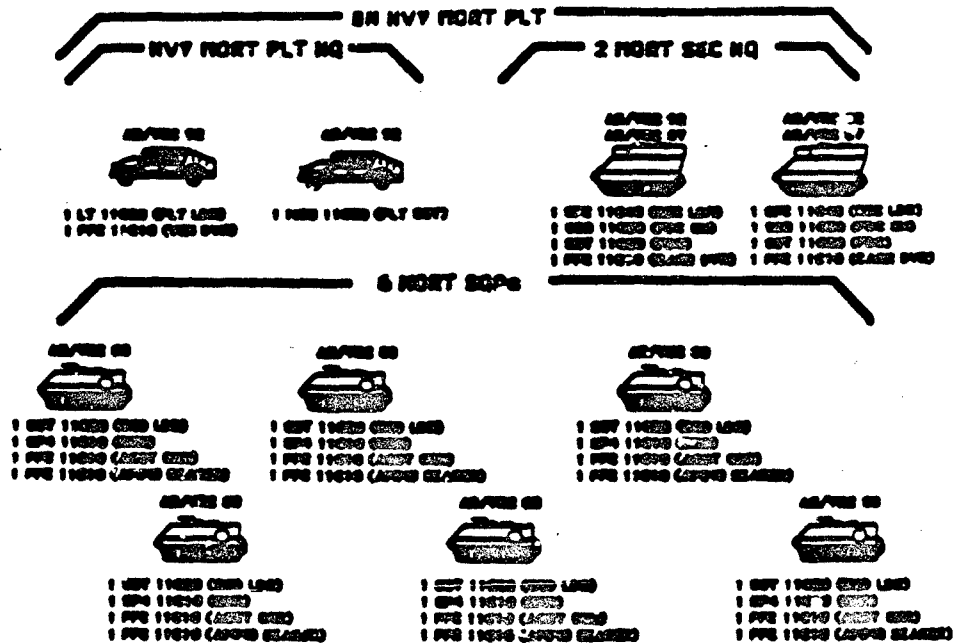


FIGURE 3-2-11. BATTALION MORTAR PLATOON.



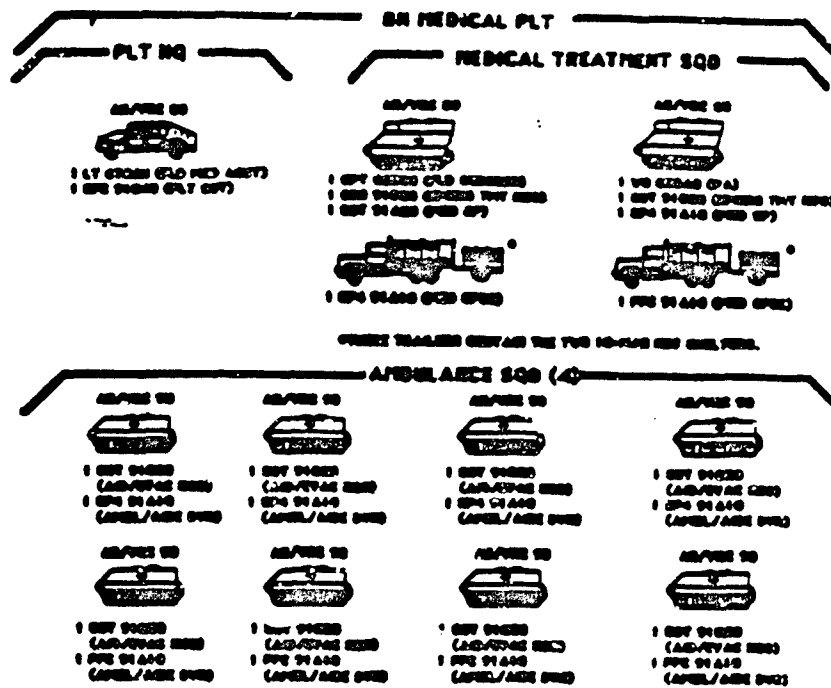


FIGURE 3-2-16. BATTALION MEDICAL PLATOON.

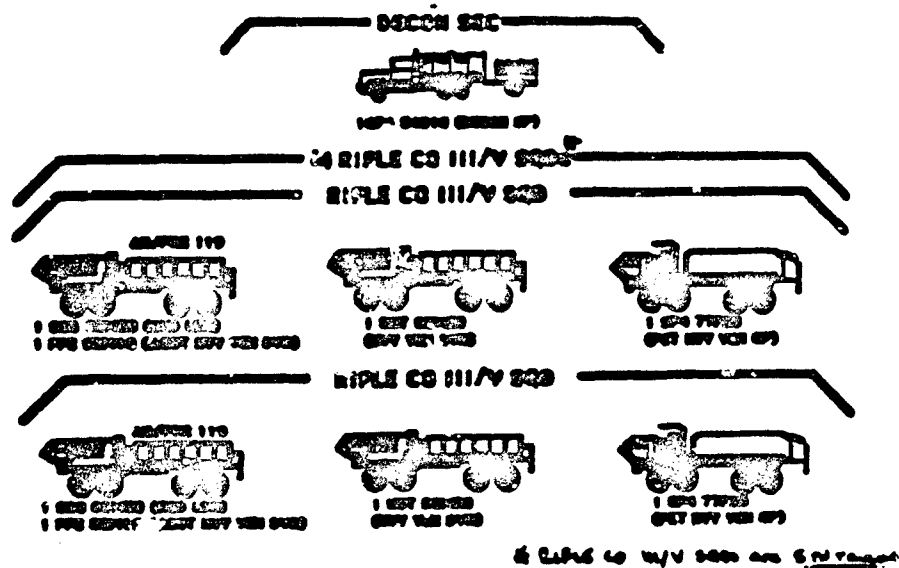


FIGURE 3-2-17. BATTALION DECON SECTION.

b. Capabilities:

- Provides command, control, staff planning, and supervision of organic and attached elements.
- Provides battalion supply/resupply support.
- Provides centralized battalion messing.
- Provides unit level health services support for the battalion, to include collection, triage, treatment, and evacuation; operates the battalion aid station; supervises combat lifesaver program; establishes and applies preventive medicine program; stocks and provides Class VIII supply support; provides aidmen to rifle and anti-armor companies.
- Provides administrative and logistic support to assigned or attached units.
- Provides organic indirect fire support with six track-mounted 107mm mortars.
- Provides battalion reconnaissance support with a six M2, thirty man scout platoon.

- * Provides unit maintenance support for assigned units.
- * Provides communication support, to include one retrans station.

c. Limitations:

- * EPW evacuation limited to uncommitted transportation assets.
- * Unit has no dedicated wire laying capability.
- * Scout platoon is limited to 6 OPs (static) one per vehicle, or 3 mounted patrols, two vehicles each.
- * Mortar platoon can be employed in a one 6-gun platoon or two 3-gun sections.
- * Class III resupply on fuel carriers is less than total unit basic load (i.e. fuel trucks do not carry a 100% vehicle requirement).
- * Class V basic load is carried on board combat vehicles and ammunition cargo trucks.

9. General control structure of the system as shown in Figure 2-2-1.

10. Data flow diagram (Data flow diagram).

11. Organization and structure of the system as shown in Figure 2-2-2.

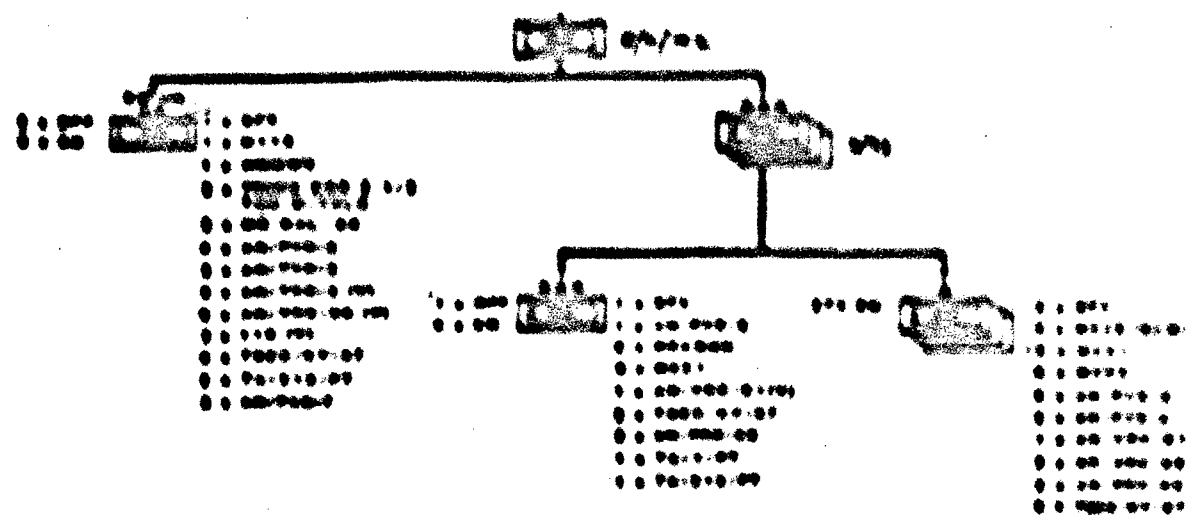
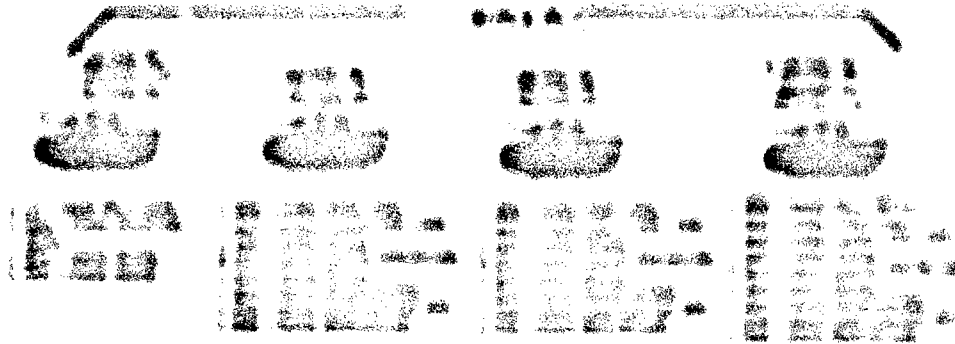


FIGURE 2-2-1. GENERAL CONTROL STRUCTURE (BLOCKS).

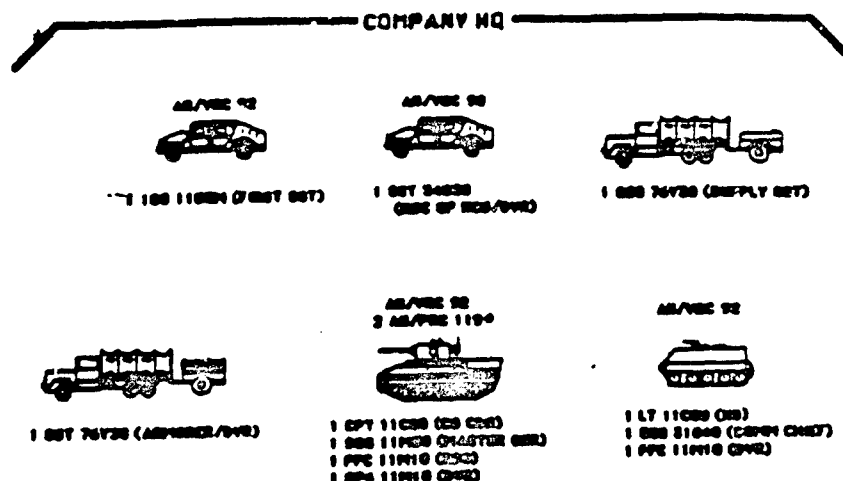
b. Capabilities:

- * Provides a base of fire and maneuver.
- * Closes with the enemy to destroy or capture him.
- * Repels enemy assault by fire, close combat, and counterattack.
- * Seizes and holds terrain.
- * Maneuvers in all types of terrain and under all climatic conditions.
- * Provides antitank protection within the capabilities of the BFV.
- * Conducts combat operations under limited visibility, employing night vision devices and vehicle thermal sights.
- * Conducts assault breaches.
- * Conducts patrols (mounted and dismounted) to accomplish reconnaissance and counter-reconnaissance.

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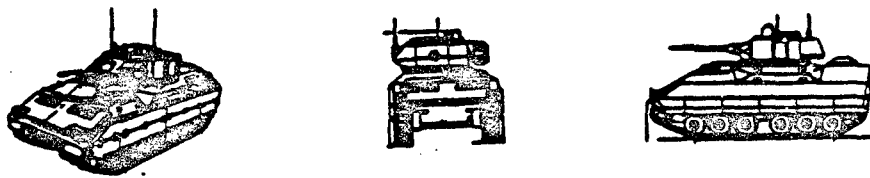
* AS/PWC 119's ACCOMPANY COMPANIES IN TRACK OR WHEEL VEHICLE.

FIGURE 3-2-20. RIFLE COMPANY HEADQUARTERS (BRADLEY).

c. Limitations:

- * BFVs more vulnerable to destruction than tanks.
- * Dismount capability is limited.
- * Requires time to dismount and mount.
- * CS and CSS provided from higher headquarters.

d. Bradley Fighting Vehicle (BFV) Characteristics: (See FIGURE 3-2-21).



Weight:	50,000 lbs (Combat)	Crew:	3
Length:	21.5 ft	Power Train:	500 hp Diesel
Height:	9.75 ft	Cruising Range:	300 miles
Width:	10.5 ft	Road Speed:	42 mph
Main Armament:	25mm Cannon	Swim Speed:	4.5 mph
Secondary Armament:	TOW, 7.62mm Coaxial MG, Firing port weapons (IFV Only)		

FIGURE 3-2-21. BFV CAPABILITIES.

4. Anti-Armor Company.

a. Mission: To reinforce the direct antitank fires of the rifle companies.

b. Organization: See FIGURES 3-2-22 thru 3-2-24.

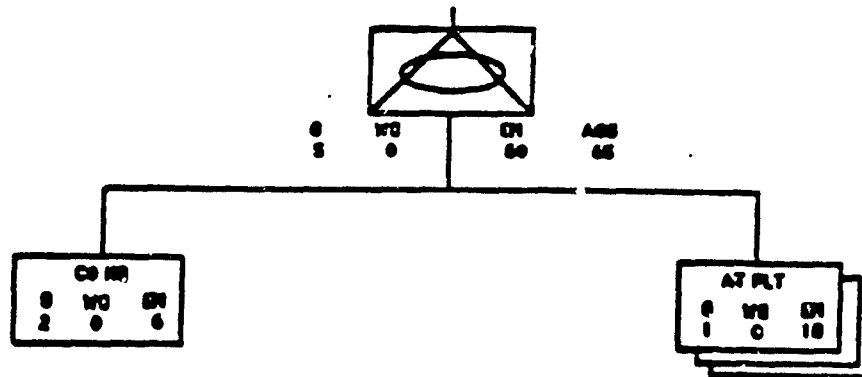


FIGURE 3-2-22. ANTIARMOR COMPANY (M) (ITV).

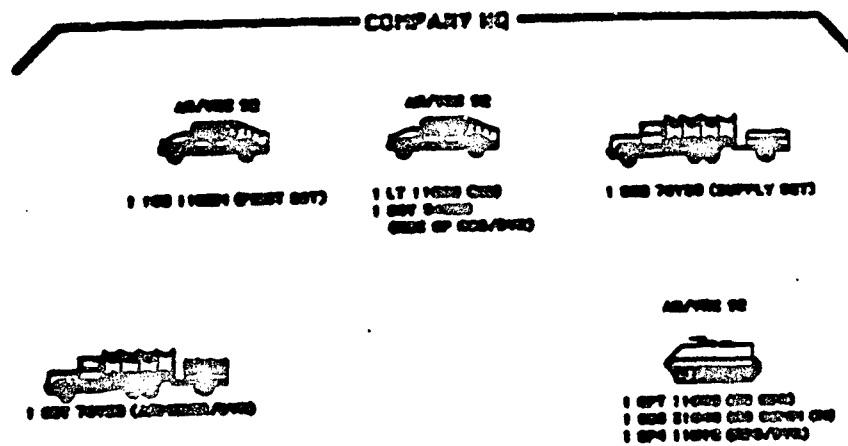


FIGURE 3-2-23. ANTIARMOR COMPANY HEADQUARTERS.

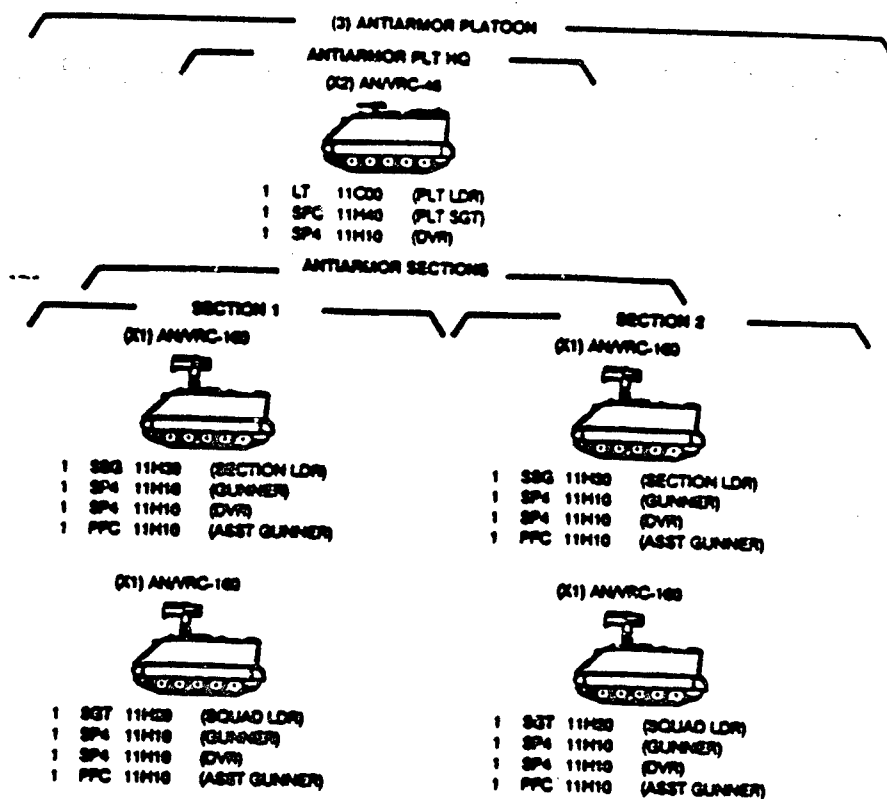


FIGURE 3-2-24. ANTIARMOR PLATOON.

c. Capabilities:

- * Provides dedicated anti-armor support to the battalion.
- * Maneuvers in terrain trafficable to track vehicles.
- * Conducts combat operations under limited visibility using night vision devices and thermal sights.

d. Limitations:

- * Provides only limited security (no dismounts).
- * Speed of M901 is less than M1 or M2.
- * More vulnerable to direct fire than M1 or M2.

5. Tank Company (M1 equipped).

a. Mission: To close with and destroy enemy forces, using fire, maneuver, and shock effect.

b. Organization: See FIGURES 3-2-25 thru 3-2-27.

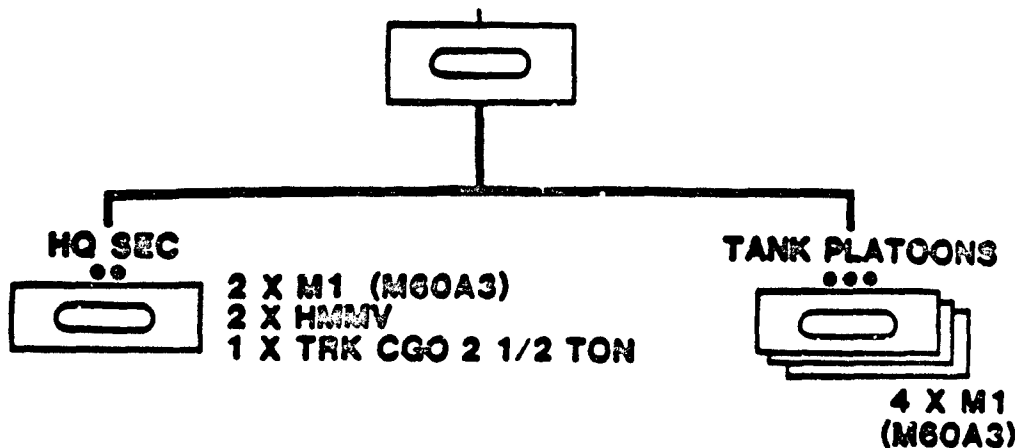


FIGURE 3-2-25. TANK COMPANY (ABRAMS).

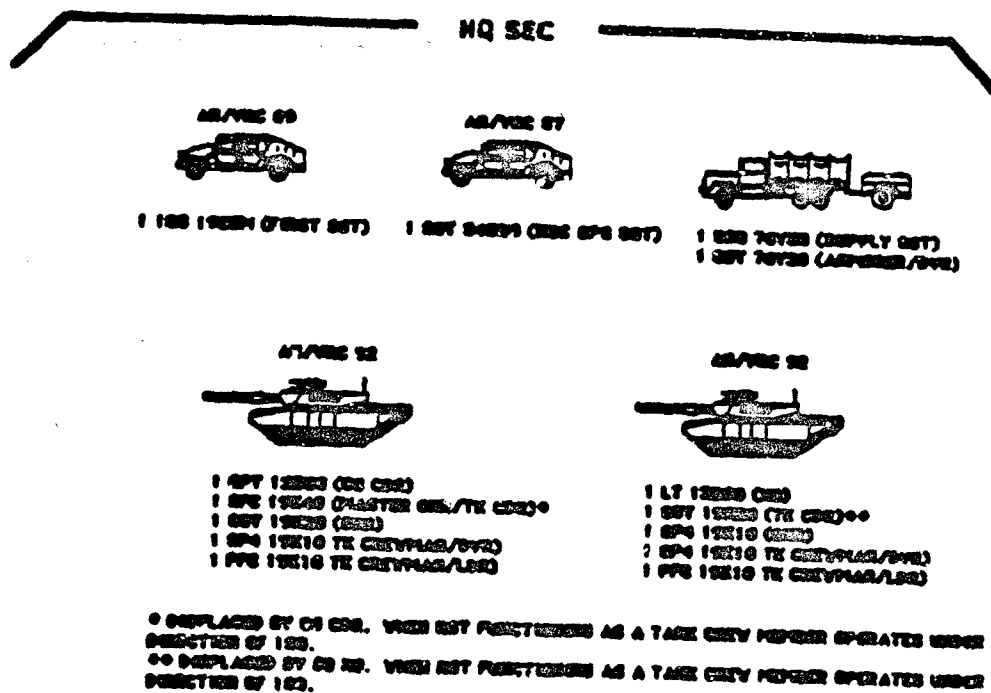


FIGURE 3-2-26. TANK COMPANY HEADQUARTERS.

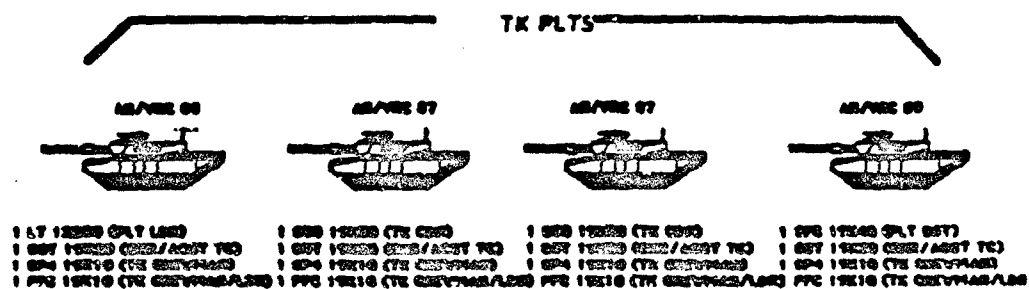


FIGURE 3-2-27. TANK PLATOON (AERAMS).

c. Capabilities:

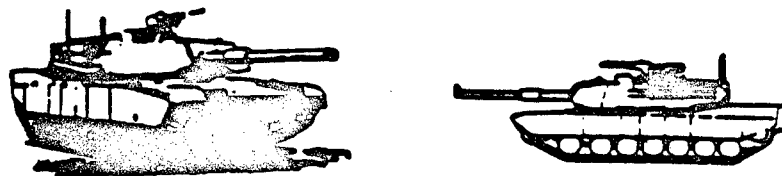
- * High degree of mobility, firepower, armor protection, and shock effect.
- * Attacks or defends under hostile fire and during limited visibility.
- * Destroys enemy mounted and dismounted forces at long and close ranges.
- * Exploits success with high cross-country mobility.

d. Limitations:

- * Limited maneuverability in buildup areas, wooded, jungle, or rugged terrain.
- * Vulnerable to antitank weapons.
- * Wading depth limited to 4 feet with hard bottom; no swim capability.
- * Normally requires at least daily resupply of Class III.

- * Limited capability to hold terrain.
- * Vulnerable to dismounted attacks in close terrain.

e. M1 Tank Characteristics: See FIGURE 3-2-28.



	M1	M1A1	M1 and M1A1
Length:	384.5 inches	387.0 inches	Secondary Armament: One .50 cal machinegun
Width:	143.8 inches	Same	Armament: Two 7.62mm machineguns
Height:	93.5 inches	Same	Power Train: 1500 hp gas turbine engine w/4 speed automatic transmission
Weight:	60.0 tons	62.9 tons	Cruising Range: 275 miles at 29 mph
Top Speed:	45 mph	41.5 mph	Fire Control: Thermal Imaging Sight; Laser Rangefinder; Digital Computer
Crew:	4	Same	
Main Gun:	105mm	120mm	

FIGURE 3-2-28. M1 ABRAMS TANK CHARACTERISTICS.

B. Light Forces.

1. Infantry Battalion (Light).

- a. Mission: To close with the enemy, by means of fire and maneuver, in order to destroy or capture him or repel his assault by fire, close combat, and counterattack.
- b. Organization: See FIGURES 3-2-29 thru 3-2-34.

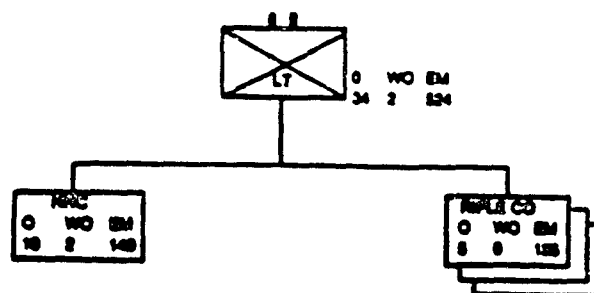
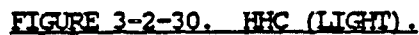


FIGURE 3-2-29. INFANTRY BATTALION (LIGHT).



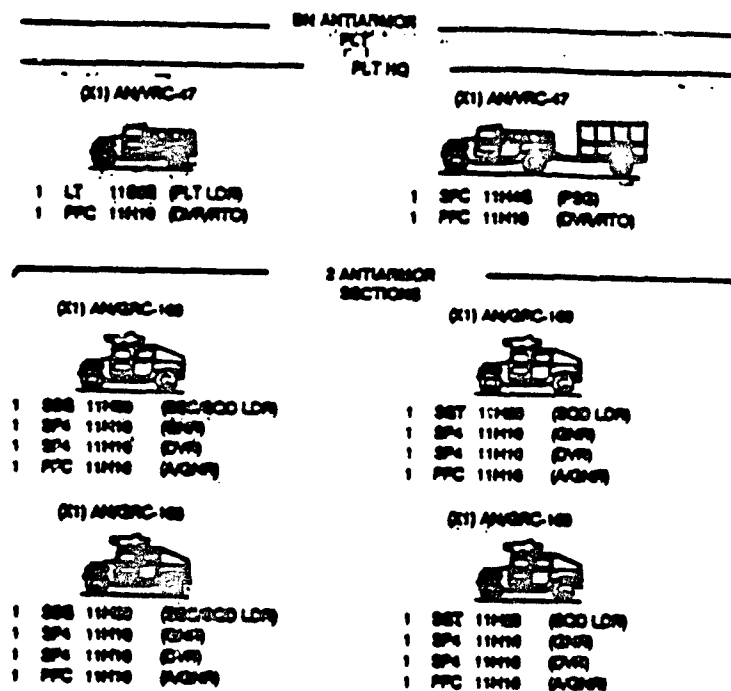


FIGURE 3-2-32. ANTIARMOR PLATOON (LIGHT).

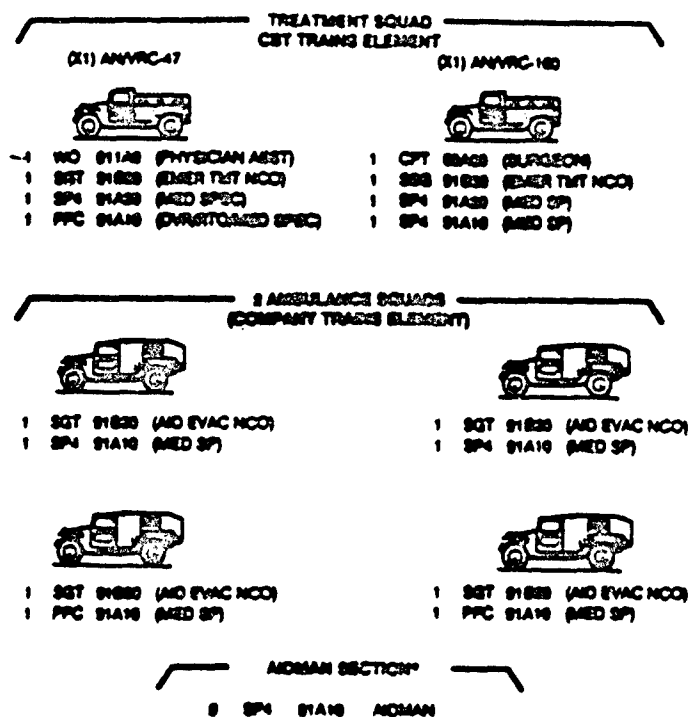


FIGURE 3-2-33. MEDICAL PLATOON (LIGHT).

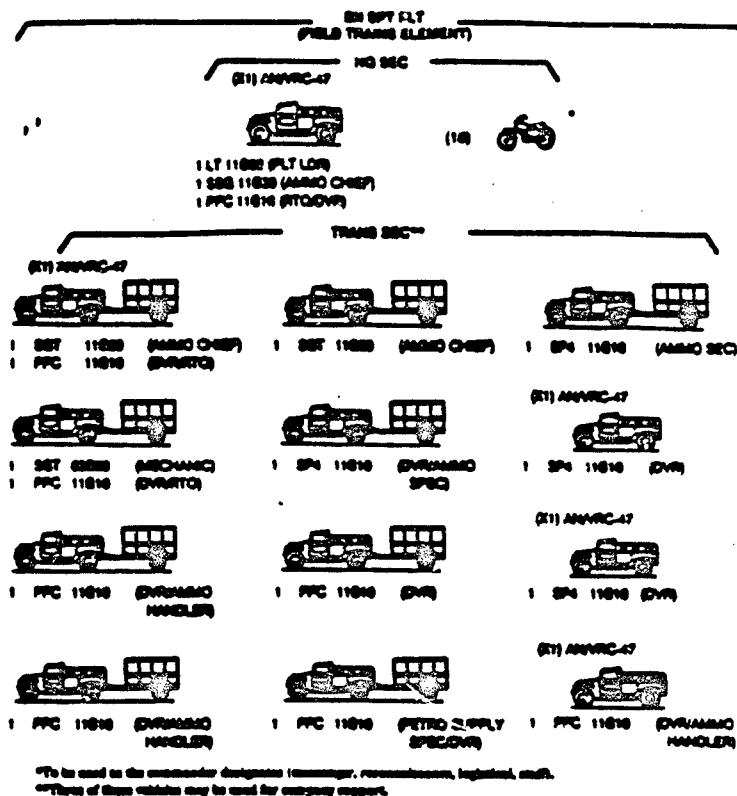


FIGURE 3-2-34. SUPPORT PLATOON (LIGHT).

c. Capabilities:

- * Conduct offensive and defensive operations, especially at night, in all types of environments.
- * Conduct independent small-unit operations.
- * Command and control widely dispersed organic forces as well as augmenting forces down to platoon level.
- * Conduct air assault operations.

- * Conduct rear area operations.
- * Participate in amphibious operations.
- * Operate in conjunction with heavy forces.
- * Conduct military operations on urban terrain (MOUT).
- * Participate in Show of Force, Demonstration, and Peacekeeping operations.
- * Support to United States Civil Authorities.

d. Limitations: The light infantry battalion, by its austere nature, has several employment limitations. Its tactical mobility is constrained by its limited organic vehicles and the limited aircraft and ground transport systems in the division. Designed to maximize the combat to support ratio, there is very little redundancy in the light infantry battalion. This requires cross training in several low-density military specialties. When deployed into a hostile environment, the battalion requires local air superiority and naval gunfire if available.

e. Vulnerabilities: The structure and organization of light infantry battalions makes them vulnerable to:

- * Nuclear, biological, and chemical (NBC) attacks.
Contamination avoidance is the NBC defense task.
- * Attack by heavy forces.
- * Attack by indirect fire.
- * Air attacks. It will be essential for units to be technically proficient in small-arms air defense and passive protective measures as air defense artillery (ADA) assets will be limited.

2. Rifle Company (Light).

a. Mission: To close with the enemy, by means of fire and maneuver, in order to destroy or capture him, or repel his assault by fire, close combat, and counterattack.

b. Organization:

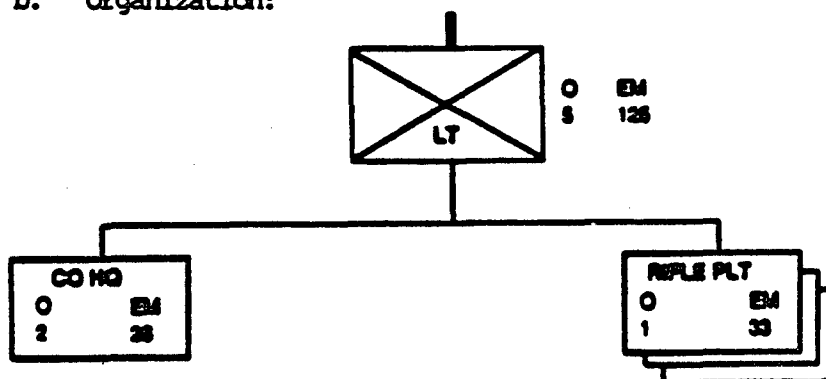


FIGURE 3-2-35. RIFLE COMPANY (LIGHT).

c. Capabilities:

- * Conduct offensive and defensive operations, especially at night, in all types of environments.
- * Conduct independent small unit operations.
- * Command and control widely dispersed organic units as well as augmenting forces.
- * Conduct air assault operations.
- * Conduct rear battle.
- * Participate in amphibious operations.
- * Operate in conjunction with heavy forces (as part of a larger force which is properly augmented for the task).

d. Limitations:

- * Austere CS and CSS assets.
- * Limited vehicular mobility.

- * Limited protection against armor, artillery, chemical, biological, and nuclear effects.
- * Soldiers must carry all required equipment, ammunition, food and water.

C. Field Artillery.

1. Mission: Field artillery assets are allocated to maneuver forces to suppress, neutralize, or destroy enemy forces. Indirect fires are used to shape the battlefield for the maneuver force. Field artillery assets allocated to the maneuver force will be assigned specific missions to support committed forces.

a. Direct Support (DS): A field artillery battalion may be assigned a DS mission. This provides fires immediately in response to the needs of the supported force. A committed brigade can have one field artillery battalion DS. The field artillery battalion is not further allocated to a battalion. Under certain circumstances firing batteries of the DS battalion may be further assigned a mission of being a "dedicated battery" in support of a specific company/ team.

b. Reinforcing (R): A DS battalion may have their fires augmented with additional artillery assets. Augmentation is normally by

allocation of one or more artillery battalions assigned to reinforce a specific DS unit.

c. General Support (GS)/General Support Reinforcing (GSR):

Additional field artillery assets may be available to a maneuver force in a GS or GSR role. These assets are not allocated to the maneuver force, and are controlled by the parent DIVARTY of the maneuver division. If authorized by the force artillery commander (DIVARTY Cdr) GS/GSR units can provide fires into the brigade sector.

2. Organization:

a. The DS battalion for a light brigade is normally organized with three 6-gun firing batteries and a headquarters, headquarters, and service battery (HHSB). The Light artillery battalion is equipped with a 105mm howitzer (either M102 or M119) with a range of 11,500 meters (14,500 with RAP). Currently, the light battalion is not TACFIRE equipped requiring calls for fire and fire planning to be processed over voice nets (non-digital). All firing batteries are equipped with the battery computer system (BCS).

b. The reinforcing battalion will most likely be equipped with a 155mm howitzer (either the M198 [towed] with a range of 22,400 meters [30,000 with RAP] or the M109A3 [Self Propelled] with a range of 18,100

7
meters [23,500 with RAP])). Similar to the DS battalion, the battalion normally has three firing batteries. Each firing battery has eight guns organized into two firing platoons. The 155mm battalion is normally TACFIRE capable. Unlike the Light battalion, the 155mm battalion has a headquarters and headquarters battery (HHB) and a service battery (SVC BTRY) to provide command and control and logistical support.

3. Capabilities, Limitations, and Employment Considerations:

a. Target acquisition: The light artillery battalion has an organic Q36 Counterfire radar section capable of providing countermortar/battery targeting to the DS battalion. The Q36 has a digital capability and can be linked to the TACFIRE set of a reinforcing battalion to enhance the responsiveness of the counterfire system. Under certain circumstances, a Q37 Counterfire radar from a heavy division, or a corps target acquisition detachment (TAD) may be allocated to a light brigade. This asset provides an increased ability to acquire counterbattery targets to a range of 50 km (24 km for countermortar targets). When linked with TACFIRE, the Q36/37, in an automatic mode, can acquire incoming fires, compute the location of the fires and initiate a counterfire mission prior to the enemy rounds impacting.

b. Communications: The primary means of communication of a light force FO/FIST is the FRC 77 (range 8 km). The battalion and brigade use the VRC 12 (range 40 km) series radios to communicate with firing

elements and maneuver elements. Communications are secure, however, they are not digital. Fire plans and requests for fire are done on voice nets. Heavy force fire support elements at all levels use the VRC 12-series radios (mechanized platoons use the VRC 160). Heavy forces have a digital capability at all levels. When working with non-digital units, heavy units must use voice nets to process requests for fire, and fire plans. To maintain communications between firing elements and heavy and light forces, a dedicated RETRANS system must be established.

c. G-VLID Target Designation: Organic to the light artillery battalion is one Combat Observation Lasing Team (COLT). It is dismounted with limited capability to displace. The FIST-V has the capability to lase targets. A technique for Light-Heavy operations is to collocate the light COLT with a FIST-V to provide mobility and a more effective method of target engagement when attacking targets with precision guided munitions. Each company fire support team has a FIST-V.

d. Ammunition: The 105mm howitzer has an extremely high rate of fire (10 rounds per minute for 3 minutes; 3 rounds per minute sustained). The 105 has a wide variety of ammunition including HE, RAP, ICM, ILLUM, SMK, and WP. Additionally, the 105 has APERS (BEEHIVE) rounds, and HESH and HEP-T rounds for use against lightly armored vehicles. The 155 howitzer has a slower rate of fire (4 rounds for one minute; 1 round per minute sustained). The munitions of the 155 are more lethal than those of the 105. The most significant advantage of the 155

systems, besides weapon range, is the DPICM, COPPERHEAD, and FASCAM capability not available with 105mm systems. The 155 has neither APERS nor HESH/HEP-T rounds for direct fire.

Attack of Typical Soviet-Type Targets			
TARGETS	WEAPONS	PROJECTILES	EFFECTS
Personnel, fighting position without reinforced cover	AS	HE, APICM	VT, Sma, Q
Fighting position without reinforced cover	AS	HE	Q, delay
Vehicle, tank	AS 155-mm and 203-mm 155-mm 203-mm	HE OPICM, FASCAM, Copperhead OPICM	VT, Sma Time Time
Vehicle, APC	AS 155-mm and 203-mm 155-mm	HE OPICM FASCAM, Copperhead	VT, Sma Time Time
Vehicle, BTR	AS 155-mm and 203-mm	HE OPICM	VT, Sma Time
Weapons Artillery missile	AS 155-mm and 203-mm	HE OPICM	Q Time
Artillery	AS 155-mm 203-mm	HE, WP OPICM, FASCAM OPICM	VT, Sma, Q Time Time
Radar, ACA	AS 155-mm and 203-mm	HE OPICM	VT, Sma, Q Tm. 2
Concealed post, observation post	AS 155-mm and 203-mm	HE OPICM, APICM	VT, Sma Time

APC - armored personnel carrier
 APICM - experimental improved conventional munition
 Q - equal

FIGURE 3-2-36. TARGET ATTACK CRITERIA.

e. **Weapon Mobility:** The 105mm is air transportable on all cargo and utility helicopters. The systems can be quickly emplaced/displaced and uses the HMMV as its prime mover. The M198 can be air

transported by the CH 54D (for short ranges with the CH 54C, without crew or ammunition). The M109A3 is not air transportable by helicopter. The M198 requires a 900-series 5-ton as the prime mover. The M198 requires 20 minutes to prepare for firing.

US Artillery and Mortar Capabilities							
TYPE WEAPON	MINIMUM RANGE (METERS)	MAXIMUM RANGE (METERS)	MAXIMUM RANGE (METERS)	MAXIMUM RANGE (METERS)	WEIGHT (POUNDS)	RATE OF FIRE (ROUNDS/MINUTE)	
						MAXIMUM	SUSTAINED
60-mm mortar (M60)	80	1,500	NA	70	45	30	15
81-mm mortar (M81)	70	4,000	NA	140	61	20	8
81-mm mortar (M81A1) Improved	140	4,000	NA	140	65	20	15
107-mm mortar (M107)	600	8,000	NA	200	672	15	3
107-mm mortar (M107A1)	770	8,000	NA	200	672	15	3
120-mm (M120)		14,000	14,000	200	1,200	8	3
120-mm (M120A1)		11,000	11,000	200	1,171	10	3
120-mm (M120A1)		11,000	11,000	200	1,171	10	3
120-mm (M120A1A1)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A2)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A3)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A4)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A5)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A6)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A7)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A8)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A9)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A10)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A11)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A12)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A13)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A14)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A15)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A16)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A17)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A18)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A19)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A20)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A21)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A22)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A23)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A24)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A25)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A26)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A27)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A28)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A29)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A30)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A31)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A32)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A33)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A34)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A35)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A36)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A37)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A38)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A39)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A40)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A41)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A42)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A43)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A44)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A45)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A46)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A47)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A48)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A49)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A50)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A51)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A52)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A53)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A54)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A55)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A56)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A57)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A58)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A59)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A60)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A61)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A62)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A63)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A64)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A65)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A66)		14,000	14,000	200	1,200	4	1
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120-mm (M120A1A68)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A69)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A70)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A71)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A72)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A73)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A74)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A75)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A76)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A77)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A78)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A79)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A80)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A81)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A82)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A83)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A84)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A85)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A86)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A87)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A88)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A89)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A90)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A91)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A92)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A93)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A94)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A95)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A96)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A97)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A98)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A99)		14,000	14,000	200	1,200	4	1
120-mm (M120A1A100)		14,000	14,000	200	1,200	4	1

FIGURE 3-2-37. US ARTILLERY AND MORTAR CAPABILITIES.

D. Aviation.

1. Mission:

- a. The aviation brigade provides reconnaissance, surveillance capability, firepower, and logistical support to the commander.
- b. It provides the flexibility to act with speed, firepower, and maneuverability. Aviation assets may be involved in the employment of maneuver, CS, and CSS for the host nation, U.S., and allied forces, depending on the political restraints imposed on U.S. forces in the host nation.

2. Organization:

- a. Aviation brigades must tailor the appropriate TF based on METT-T and the commander's intent. They must also deploy within the constraints of resources available such as USAF airlift capabilities. The optimum aviation TF may be determined by considering several factors, to include the following:

- * Mission, enemy, terrain, troops, and time available.
- * The necessity of having aviation forces "early on" during the deployment phase and the deployment priority

for the aviation task force.

- * CSS considerations and host nation support capabilities (if available).
- * Length of time before follow-on forces arrive.

b. In developing an aviation task force, a TF headquarters must be designated. The TF headquarters is normally selected from three organizations within the division aviation brigade: the cavalry or air reconnaissance squadron, the attack helicopter battalion, the aviation battalion (AEN/LID) or assault helicopter battalion (ASSLT). The aviation task force should be balanced; however, it requires focused attack or reconnaissance capabilities.

c. Attack helicopter units, as well as reconnaissance units, are the most mobile antiaarmor and antipersonnel forces with substantial firepower available to the commander. The following is a type TF that has been selected with an attack helicopter battalion as the TF HQ. This particular task force (FIGURE 3-2-38) is composed of:

- * The headquarters and headquarters company.
- * Two attack helicopter companies.

- * Two assault helicopter companies.
- * One CH-47 platoon.
- * An aviation brigade Class III/V section.
- * An aviation unit maintenance company (AVUM) with AVIM assets attached.

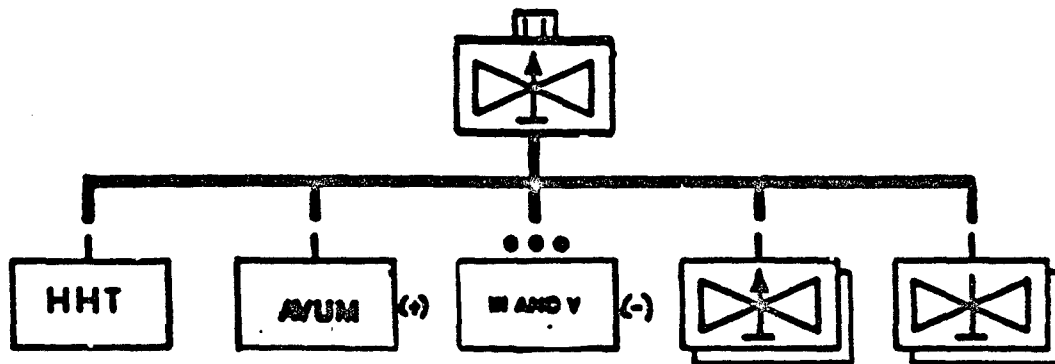


FIGURE 3-2-38. AVIATION TASK FORCE.

d. The primary mission of the reconnaissance squadron is reconnaissance, surveillance, and limited security of the division. It

will work for the division commander or the aviation brigade. When working for the division commander the squadron will still rely on the TF contact teams for maintenance support. Since the reconnaissance squadron is supporting the division it has not been task organized under the attack helicopter battalion TF.

e. The aviation brigade commander should deploy a team with the TF. This team is organized like the tactical CP and provides initial coordination and liaison for the TF, the reconnaissance squadron, and follow-on aviation forces. The rest of the aviation brigade deploys as the lodgement and expansion phases are continued.

f. The HHC provides logistical and medical support to the TF. Within the HHC, a ATS platoon or section provides air traffic services. Command aviation assets are also attached to the HHC to provide the division and the aviation brigade command groups with C² platforms.

g. The configuration of weapons systems on the attack helicopters will be mission dependent based on the threat capabilities. In many scenarios there will be more emphasis on guns and rockets as opposed to missiles. Assault and medium lift helicopters will be intensely employed in air assault and air movement operations.

h. Key to the successful employment in all of these missions will be the effective use of aviation liaison officers to enhance the

command and control requirements for these varied and critical operations.

3. Capabilities, planning, and employment considerations:

a. Capabilities.

- * Capable of massing/ shifting combat power rapidly.
- * Capable of achieving speed and surprise to gain and maintain initiative.
- * Capable of providing combat, CS, and CSS assets to the commander.
- * Most mobile maneuver force.
- * Capable of limited night operations.
- * Capable of attack moving targets.

b. General planning considerations.

- * Requires time critical, high volume CSS.
- * Cannot hold terrain without augmentation.

- * Can dominate terrain for limited periods.
- * Vulnerable to enemy in static positions.
- * Limited by extreme weather and in extreme environments.

c. Employment principles.

- * Employment of aviation integral to scheme of maneuver.
- * Ground maneuver exposes, air maneuver exploits.
- * Offense: lend depth, cover deployment of ground force.
- * Defense: lend depth, cover deployment of ground force.
- * Well suited to attack trailing enemy formations.

d. Successful employment requires:

- * Early inclusion in planning process.
- * Risk identified by the commander.

- * Accurate, timely intelligence.
- * Focused mission type orders.
- * Resourcing for the mission.

E. Air Defense Artillery (ADA).

1. Mission: Provide limited air defense of the light-heavy brigade against low-altitude hostile aircraft.

2. Planning Considerations:

a. The Air Defense Commander will plan his defense utilizing the following ADA employment guidelines:

- * Mutual support.
- * Overlapping fires.
- * Balanced fires.
- * Weighted coverage.

- * Early engagement.

- * Defense in depth.

b. Air defense priorities are determined by the following:

- * Criticality of the asset.

- * Vulnerability of the asset.

- * Recoverability of the asset.

- * The threat being faced.

c. The following employment principles must be observed:

- * Mix.

- * Mass.

- * Mobility.

- * Integration.

3. ADA Employment Considerations:

- * METT-T dependent.
- * Composition of enemy force/ threat evaluation.
- * Recent and present significant activities.
- * Any peculiarities or weaknesses which may influence the combat effectiveness of the enemy forces.
- * Enemy capabilities and air IPB.
- * Own situation.
- * Friendly forces vulnerability to an attack by enemy air.
- * Friendly course of action.
- * Logistics support for ADA equipment/ personnel.
- * Hostile criteria.
- * Rules of Engagement (ROE).
- * Commander's air defense priorities.

- * Ammunition resupply issues.
- * Airspace control measures in effect.
- * Establish communications/ liaison with units.
- * Present Air Defense Warning Status.
- * Present Air Defense Weapons Control Status.
- * Identify, Friend or Foe (IFF) codes in effect.

4. ADA Capabilities:

- * Air defense against low-altitude hostile aircraft.
- * Ground fire against lightly armored vehicles and enemy personnel with the gun system when not required in the air defense role.
- * Target alert data (early warning) from the Forward Area Alerting Radars (FAAR).
- * Air defense coordination support can be available for obtaining early warning by linking into AWACS or any local

HIMAD air defense organization. The air defense battalion must provide additional coordination teams for this support.

- * An air defense element can be provided to any airspace management (A^2C^2) that exists.
- * The self-propelled Vulcans can maintain air defense coverage of a rapid moving heavy element.
- * The towed Vulcans within the light division can support the light infantry in both the ground and aerial mode. The light infantry battalions must rely heavily on passive air defense measures.
- * The SP Vulcans can shoot on the move.
- * The Stinger missile has IFF capability.
- * The FAAR has IFF capability.
- * The range of the Vulcan is 1200 meters.
- * The range of the Stinger missile is 4+ km.

5. ADA Limitations:

- * Towed Vulcans provide no armor protection for crew members.
- * Towed Vulcans are dependent on its prime mover for mobility and communications.
- * The high firing rate of the Vulcan gun system and the limited storage capability on both the towed and self propelled models make ammunition conservation a must.
- * Aerial targets must be visually acquired and identified prior to firing on all systems except for the Stinger missile, which has IFF capability.
- * Hit probability of the gun systems against high speed aircraft is reduced when they fly a crossing course.
- * Towed Vulcan shoot-on-the-move capability is very limited.
- * Little armor protection is provided to the crew and material in the SP Vulcan.
- * Various ranges of the SHORAD weapons.

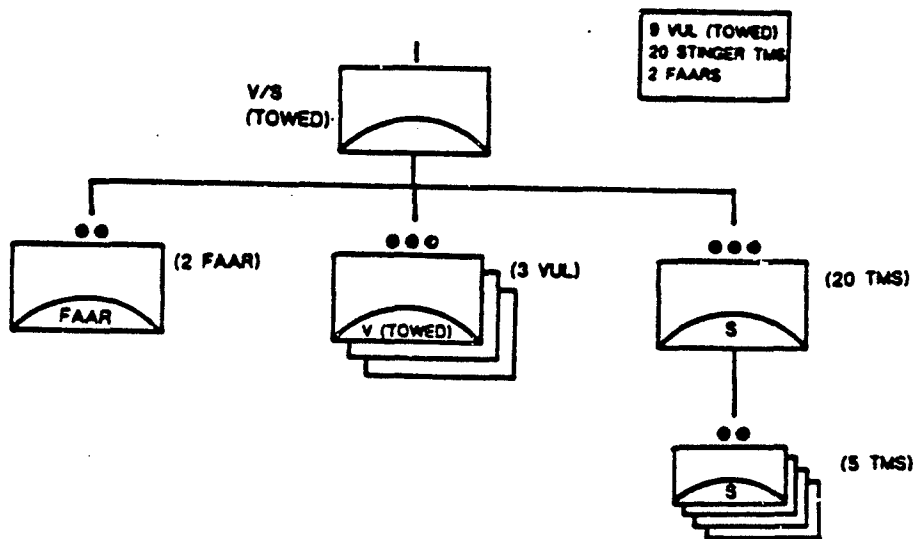


FIGURE 3-2-39A. LIGHT BRIGADE ADA ORGANIZATION AND EQUIPMENT.

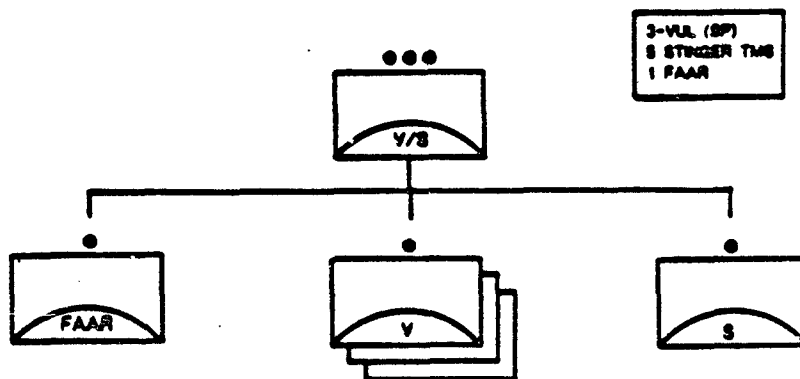


FIGURE 3-2-39B. HEAVY BATTALION TF ADA ORGANIZATION AND EQUIPMENT.

F. Intelligence and Electronic Warfare (IEW) Support.

1. Organization and Equipment:

a. IEW support to a light-heavy brigade is METT-T dependent and based on the brigade, or task force, commander's overall IEW requirements. An understanding of the threat's capabilities, specifically in the area of electronic order of battle, is an obvious basic requirement prior to any IEW force development.

b. An IEW company/ team may be formed from the division's MI battalion to support a brigade. Each parent unit (i.e. the heavy or light division) has organic intelligence assets which are normally employed in a general support mission to the division (i.e. Quick Fix II, Trailblazer, etc), but may be committed in a direct support, or attached role to a contingency force. Space, airframes, logistical support packages are just a few of the considerations which must be made when developing the IEW support unit for a light/heavy contingency force. In addition, the IEW assets contained within the light and heavy divisions are not totally the same and may vary in system capabilities and compatibility. To further complicate force development efforts, a variance in equipment within the light divisions (airborne, air assault, and light) also exists. Although a variance of equipment is found, the fundamental mission of providing intelligence, electronic warfare and counterintelligence support to the force commander remains.

c. The diagram below depicts a "type" Intelligence, Electronic Warfare (IEW) company organization which could be employed in a light-heavy brigade area of operations:

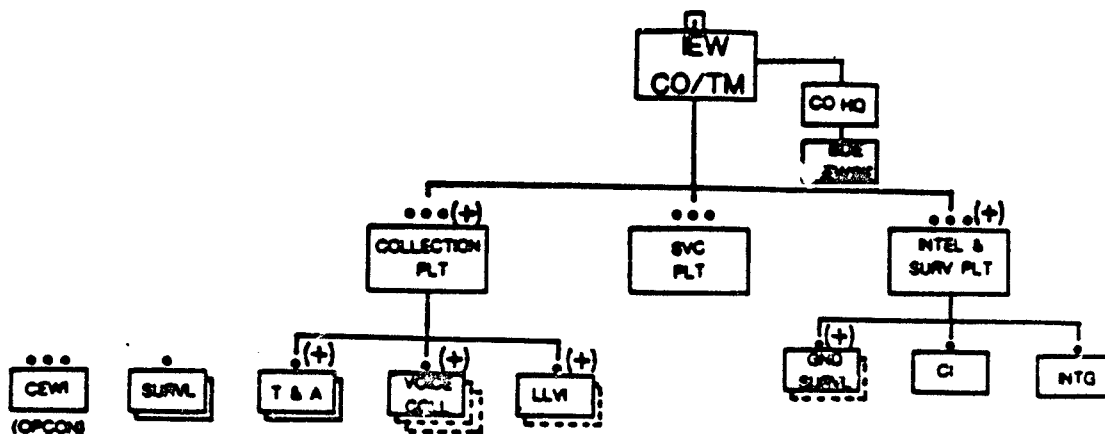


FIGURE 3-2-40. TYPE IEW COMPANY TEAM (LT/HVY).

2. Mission: The mission of the IEW company/team supporting a brigade is to provide the brigade commander with three key forms of support: intelligence, electronic warfare (EW), and counterintelligence (CI).

a. Intelligence. Intelligence support provided by the IEW company team will primarily be derived from Signal Intelligence (SIGINT) and Human Intelligence (HUMINT). The SIGINT support will be derived from the voice collection teams conducting active voice intercept of threat

communications. Primary HUMINT support will come from interrogation personnel conducting interrogations of EPWs and translating any captured enemy documents. The S-2 of a brigade operating without a division headquarters will have increased responsibility in the area of collection management of MI assets and may require assistance from the brigade's Intelligence Electronic Warfare Support Element (IEWSE).

b. Electronic Warfare (EW). EW support will consist of voice intercept operations to derive targeting data from analysis of intercept and direction finding (DF). Electronic warfare support in the form of jamming (ECM) may be available if the Quick Fix II system or from a heavy division's C&J platoon of the MI battalion ground based ECM system is employed. No ground-based jamming capability exists within the light division. Quick Fix is a desirable asset, even if jamming is not envisioned, because of its more mobile and longer range DF capability.

c. Counterintelligence (CI). CI excludes management of physical security, personal, document, and operations security (OPSEC). CI supports the successful execution of these activities by providing analysis of foreign intelligence threats to include espionage, subversion, assassination, terrorism, and other threats.¹¹ Major CI functions include:¹²

* Investigation.

- * Collection.
- * Operations.
- * Analysis and Production.

3. IEW Capabilities/Limitations:

a. GSR.

(1) AN/PPS-5 and AN/PPS-15 detect moving targets and provide accurate distance and directional data. The AN/PPS-5 detects targets at ranges of 10,000m for vehicles and 6,000m for personnel. The AN/PP15 detects personnel at 1.5 km and moving vehicles at 3 km. The AN/PPS-15 is a smaller system and can be carried by one man. The AN/PPS-5 requires 3 personnel. Capabilities of both systems include:

- * Penetrate smoke, haze, fog, light rain and snow, and light foliage.
- * Effective day or night.
- * Detect moving personnel and equipment.

- * Distinguishes between wheeled vehicles, tracked vehicles, or personnel. (Varies based on operator's training.)

- * Transportable and man-portable.

- * Provide real-time reporting.

(2) Critical limitations include:

- * Requires line of sight.

- * Heavy rain, snow, dense foliage, and high winds degrade operations.

- * Subject to enemy radio electronic combat (depends on threat capabilities).

- * Cannot distinguish between enemy or friendly movers.

- * The AN/PPS-5 system has a slower displacement time during dismounted operations.

b. Interrogation Teams.

(1) Language qualified interrogators will screen EPWs, detainees, and refugees. They can provide valuable information from interrogations and the translation of enemy documents. Capabilities include:

- * Foreign language proficiency.
- * Qualified in interrogation techniques.

(2) Critical limitations include:

- * Time available to screen and interrogate EPW, detainees, and refugees.
- * Reliability and willingness of EPWs, detainees, and refugees to cooperate.
- * Content and subject of captured enemy documents.

c. Collection and Jamming (C&J) Equipment.

(1) The support provided by C&J assets is totally dependent on the threat's use of the electronic spectrum. Simply stated, if he doesn't talk on the radio, he can't be intercepted or jammed. In addition, if the Quick Fix II system is not included in the force package,

then no organic jamming capability exists for the brigade. Capabilities of C&J equipment include:

- * Provide combat information and targeting data on threat. (Identify, locate, track, and monitor enemy transmissions.)
- * Disrupt enemy command, control, communications, and intelligence in concert with maneuver and fire.
- * Can communicate essential orders and requests of brigade and battalion commanders during enemy jamming.

(2) Critical limitations include:

- * Must have enemy electronic order of battle information on enemy's disposition, frequency, utilization, and CEOI use.
- * Power of enemy transmitters, terrain, and weather impact on collection efforts.
- * Logistical support to deployed voice collection teams.
- * Aviation logistical support to Quick Fix II assets (if

deployed).

d. Long Range Surveillance (IRS) Teams.

(1) If available, these division asset teams can provide information beyond the range of brigade collection resources. They are valuable assets for targeting second echelon forces and should be considered for employment along major avenues of approach. Capabilities include providing real-time reports on enemy activity.

(2) Limitations:

- * Planning time required is significant (18-24 hours).
- * Risk of detection/compromise during insertion.
- * Mobility once inserted.

e. Scouts.

(1) Scouts are a significant intelligence gathering asset on the battlefield. Along with providing reconnaissance and security they assist in control and movement of units. Light scouts must concentrate on the most likely enemy avenues of approach. Heavy scouts have more flexibility and cover much wider areas. Capabilities include:

- * Route, zone, and area reconnaissance.
- * Establish listening and observation points.
- * Provide contact teams and conduct liaison.
- * Assist in counter-reconnaissance.
- * Provide traffic control and road guides.
- * Screen flank, front, or rear units.

(2) Critical limitations include:

- * Limited firepower.
- * Heavy scouts are easier to detect.
- * Light scouts have limited range due to communication assets and foot-mobility

f. REMBASS: A day/ night, all-weather, unattended surveillance system capable of detecting and classifying target types at ranges of 350 meters from the sensor and transmitting the data 15 KM to a monitoring

site.

(1). Capabilities of REMBASS include:

- * Penetrates smoke, fog, haze, rain, snow, and foliage.
- * Effective 24 hours, day and night for up to 120 days.
- * Detects and classifies target types.
- * Man portable.
- * Real-time reporting.
- * Optical line of sight not required.

(2) Critical limitations include:

- * Radio (electronic) line of sight required with monitoring station.
- * Cannot distinguish between friend and foe.
- * Subject to environmental activation (animal movement).

G. Nuclear, Biological and Chemical (NBC).

1. Smoke/DECON Platoon, Corps Smoke/Decontamination Company. The smoke/DECON platoon provides smoke and DECON support to the light infantry or units located in the rear area. It specifically supports operations in a low-to mid-intensity environment. The platoon can provide smoke or DECON support, but not both simultaneously.

A platoon can provide smoke coverage for 0.5 to 1.7 kilometers if smoke is to be 50-150 meters wide. Employment is normally in platoon organization. The smoke support wide assists maneuver elements, and may also be employed in rear areas. Employment of less than a platoon severely degrades the ability of the unit to provide smoke.

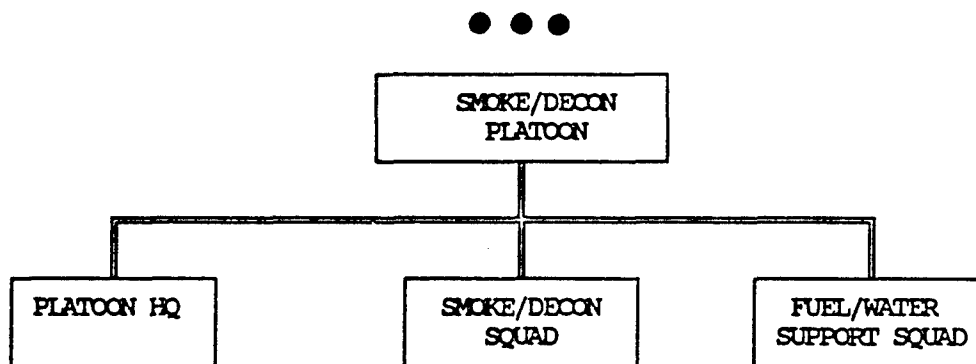


FIGURE 3-2-41. ORGANIZATION OF THE SMOKE/DECON PLATOON.
CORPS SMOKE/DECON COMPANY.

The platoon can furnish deliberate and hasty DECON support. Deliberate DECON will not occur forward of the BSA. However, a DECON squad may be used to support hasty DECON operations. During deliberate equipment DECON (DED) operations, the supported unit must provide each squad with eight personnel. The supported unit equips and operates a collocated personnel DECON station.

Platoons are normally OPCON or attached in support of brigade or battalion operations. For hasty DECON operations, a DECON squad from the platoon may be provided to a battalion for support.

The smoke/DECON platoon is motorized and 100% mobile. The unit is very vulnerable to enemy direct fire weapons.

DECON capabilities include the ability to setup a hasty DECON (vehicle wash down site in approximately one hour (assuming water availability); and the ability to process one vehicle every 5.7 minutes (approximately 100 gallons of water per vehicle). For DED, the platoon, as a rule, can process the first vehicle in approximately 90 minutes, and complete one additional vehicle every 10 minutes thereafter.

2. The mission of the Mechanized Smoke Platoon, Heavy Division Chemical Company is to provide large-area smoke support for tactical operations for close or rear operations. For support of maneuver operations, the platoon can be attached to a maneuver brigade or

battalion. A platoon is capable of providing large-area smoke from 1.1 to 3.7 kilometers wide for a visibility of 50 to 150 meters deep, respectively.

The mechanized smoke platoon performs missions in or forward of the BSA. If the platoon locates forward of the brigade support area (BSA), it is attached to the brigade for logistical and administrative support.

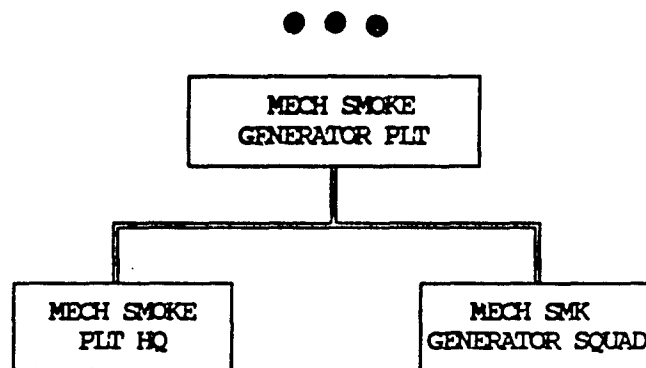


FIGURE 3-2-42. SMOKE PLATOON.

The supported unit provides the following information to support planning:

- * Location and size of the area to be screened.
- * Time smoke coverage is required.
- * Duration of smoke coverage.

- * Visibility desired within the screen.

- * Mission of the supported unit.

The smoke systems are mounted on armored personnel carriers (M1059), and are very mobile. However, the systems present a distinct silhouette, and must take advantage of available cover and concealment to ensure their survivability.

The mechanized smoke platoon is generally attached or OPCON to support a heavy force.

The mechanized smoke platoon (from the heavy division chemical company) and the smoke/DECON platoon (from the corps smoke/DECON company) will probably operate as a chemical company team. For centralized command and control and logistics support, a company team headquarters element ensures unity of command for an important, scarce commodity -- chemical units. For example, priority of effort may direct that both platoons employ smoke in mass in adjacent areas to support operations or a "deception story".

H. Engineer Organizations to Support Contingency Operations.

1. Considerations for Engineer Task Organization: Engineer task

organization is developed during the predeployment phase. Forces are allocated based upon METT-T. Analyzing these factors cannot be emphasized enough. Engineer force allocation centers around identifying engineer missions for deployment, force buildup/initial combat, decisive combat operations, and redeployment.

a. Special considerations must be given to maneuver troops available for the operation. It is critical to achieve a mix of engineer forces that mutually supports the mix of maneuver forces.

b. Engineer command and control requirements are another major consideration in task force organization. For instance, during decisive combat operations, a wide variety of engineer forces are employed on equally diversified missions from lodgement area sustainment engineering to offensive/defensive support of LT and HVY TFs. This requires the use of the divisional light engineer battalion as a command and control headquarters to support the brigade operation.

c. Last, the amount of host nation engineer equipment support available in the contingency area of operations is critical in trimming the engineer force to within transport constraints. Critical engineer equipment such as blades, trucks, and loaders, often consume the most lift assets. Early identification of equipment resources already in the area of operations frees lift assets for manpower and critical items for which there is no civilian counterpart. Locating equipment resources must be a

priority information requirement for special operations forces during predeployment.

d. Below are some specific engineer force structure considerations for each phase of a contingency operation:

- * During the deployment phase, the assault force (SOF, RANGERS) must be prepared to conduct assault breaching as required to seize the lodgement area. Where there are extensive obstacles, an airborne engineer force may be allocated to the assault force to assist in assault breaching operations.
- * Usually, the lodgement area is an airfield or port. An engineer mission may be to repair/improve the airfield or port to support force buildup. This requires specialized engineer forces (i.e., Engineer Airborne Light Equipment Company, or Engineer Port Repair Company) be allocated to the assault force.
- * Securing the lodgement area is critical to the success of a contingency operation. The assault force must be prepared to quickly repel mounted or dismounted counterattacks. Therefore, the assault force must be allocated scatterable mine assets to be executed on

order on a likely counterattack avenue of approach.

The asset may be in the form of MOPMS, VULCANO, RAAMS/ADAM, etc. In some cases an engineer force may be allocated to the assault force with the mission of emplacing the situational obstacle.

- * During force buildup and initial combat operations, engineer priority shifts to supporting offensive operations to expand the air/beachhead and continuing sustainment engineering as required in the lodgement area. Engineer forces supporting the combat operations are pre-task organized with maneuver units for assault breaching. The forces must be compatible with the type maneuver force, be capable of self sustainment for the duration of force buildup, and capable of decentralized operations.
- * Main Supply Route (MSR) maintenance becomes a critical engineer mission as force buildup is complete and the force begins conducting decisive combat operations. This becomes particularly true as heavy forces are employed with the light forces in the area of operations. Available blade assets are consolidated under the engineer battalion and formed into MSR maintenance teams. Some blade assets may be required

for survivability effort of critical assets in the lodgement area.

- * The priority of engineer effort shifts to supporting TF movement to contact, attack, and defense missions as the force begins conducting decisive combat operations. TFs are task organized with a mix of light and heavy maneuver forces; engineer forces likewise task organize with an appropriate mix of heavy-light forces capitalizing on the strengths of each type of engineer. The base organization to support a TF is a light or mechanized engineer company into which critical equipment and light-mechanized engineer platoons are task organized. The mech and light engineer company commanders remain the TF engineer for their respective type TFs.

- * The mechanized force task organized to an engineer TF should be a divisional mechanized company. The divisional mechanized engineer company has the mechanical breaching capability, assault bridging assets, and obstacle emplacement capability required to support a mechanized force. The company is also relatively self sufficient with its own maintenance, fuel, and mess assets. Task organizing a smaller

mechanized force creates an extensive burden on the light engineer battalion CSS structure.

- * While the priority of engineer effort is to TF combat operations, the importance of sustainment engineering to the success of the brigade cannot be underestimated. The mission generally requires company level command and control and the equipment and haul assets found in a corps wheeled engineer company. This company may also augment light engineers during defensive operations.

2. Shown on the following figure is a model engineer battalion to support a light brigade based on a contingency operation. Equipment and manpower summaries are provided and do not include the Engineer Airborne Light Equipment Company nor the Engineer Port Repair Company. The addition of these assets is driven by the type lodgement area and can be added to the base battalion as required.

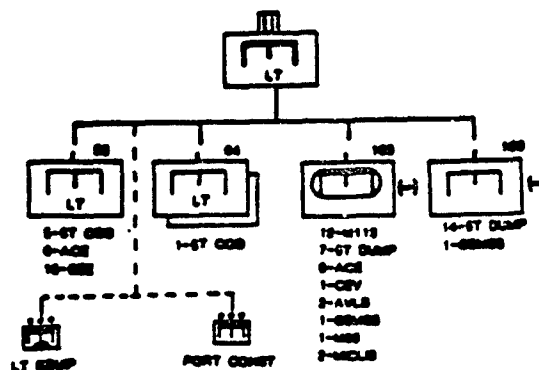


FIGURE 3-2-43. TYPE ENGINEER TASK FORCE.

3. General Characteristics of Light Engineer Forces:

- * Line companies are both equipment and manpower light.
- * Line companies are well suited for decentralized combat offensive operations (i.e., assault breaches and obstacle intelligence collection, dismounted attacks on multiple directions of attack/infiltration lanes).
- * Companies require augmentation to effectively move obstacle material in support of defensive operations.
- * Engineer equipment is consolidated at battalion in HHC.
- * Companies are trained to operate centralized in support of both offense and defense operations; in the defense they work best centralized.

4. General Characteristics of Heavy Engineer Forces:

- * Line companies are equipment heavy and manpower light.
- * Line companies are capable of self tactical sustainment and little reliance on support from parent or support unit with the exception of medical.

- * Obstacle breaching.

5. General Characteristics of Wheeled Engineer Forces: Same as Heavy Engineers but without the ability to operate under armor or the mobility to support armored forces.

6. Light-Heavy Engineer Task Organization Principles:

a. Light Supporting Heavy.

- * Light engineers should be attached to heavy engineers to streamline service support, task organization, and equipment augmentation of light engineers using heavy assets.
- * Light engineers supporting heavy should be augmented with corps level equipment assets when possible to prevent degradation of the divisional unit's capability.
- * Light engineers are task organized with Light Engineer Battalion equipment assets.
- * The heavy engineer is responsible for light engineer logistical support.

- * Up to a light engineer company can be task organized to a heavy engineer company without additional assets.

b. Task Organization Principles for Heavy Engineers Supporting Light Engineers.

- * Heavy engineer forces should be placed OPCON to light engineers. This provides the light engineer with responsive support and task organization authority without the logistical support burden.
- * Heavy engineer forces below company size supporting light forces must be augmented with sustainment assets (i.e., maintenance, fuel, supply, and medical).
- * No more than a heavy engineer company support a light engineer battalion; no more than a heavy engineer platoon augments a light engineer company.

I. Military Police (MP)¹³.

1. Organization: For contingency operations Military Police forces should be allocated based on their operational missions. The command and control element of the selected MP force should be commensurate with the

level of MP forces deployed. Criminal Investigation (CID) augmentation should be considered. Prisoner of War (EPW) operations require considerable Military Police Support.

A command and control element for this MP force is needed. This is a 3-man cell from the Light Division Provost Marshal Section composed of the Deputy PM, an Operations Sergeant, and an Assistant Operations Sergeant, with one vehicle (HMMWV) and standard weapons. A 2-man CID team should be added to provide collection, analysis, and dissemination of criminal and terrorist related intelligence aimed at US interests and provide battlefield investigative support to the brigade commander.

The MP force should draw light antitank weapons to augment their own weapons and if an air threat exists, Stingers should also be issued (two per squad).

Additional equipment should include items to establish a temporary holding facility for EPW/CIs. The contingency corps should have standard MP packages which can be taken.

2. Missions:

a. Battlefield Circulation Control (BCC). BCC includes all measures taken to expedite and assist the movement of personnel and vehicles throughout the division rear area to support the commander's

tactical plans. Such operations include route reconnaissance and surveillance, MSR regulation enforcement, straggler control, refugee control, intelligence collection and reporting, and information dissemination.

b. Area Security (AS). Military Police provide security and protection of critical sites and areas as directed by the tactical commander. This includes area reconnaissance and surveillance, security of special munitions, base response force operations, airbase ground defense operations, terrorism counteraction, area damage control, and NBC detection and reporting.

c. Enemy Prisoner of War (EPW). EPW operations include all measures taken to ensure the humane treatment, accountability, collection, and prompt evacuation of EPW and civilian, and internment operations. Military Police support tactical commanders by undertaking EPW operations. MP's relieve the tactical commander of the need to use combat forces to secure EPW's and civilian detainee's.

d. Law and Order Operations. Law and order operations include all measures taken to minimize disruption of combat operations, including crime prevention, physical security, law enforcement, criminal investigation, U.S. military prisoner confinement, and terrorism counteraction. Military Police provide law and order operations to

suppress the chance of criminal behavior, and to confine U.S. prisoners. These operations depend on the tactical situation.

J. Command, Control and Communications.

1. Command and Control.

The division Tactical Command Post (TAC CP) will deploy with the lead brigade. The TAC CP is manned with full staff representation and sufficient communications to conduct division command and control (C2) and to interface with echelon above division (EAD) elements prior to the arrival of the main CP. Staff representation include elements of the G5, Staff Judge Advocate (SJA), Finance and Provost Marshal (PM), depending on the situation. The division main tactical command post (TOC) should accompany the deployment of the second brigade.

Those combat, combat support and combat service support elements not initially deployed are organized to deploy after the lead brigade. They are task organized to facilitate an advance party and additional operational elements followed by the main body. The advance element prepares for the arrival of the main body while the operational element provides the necessary support to sustain operations of the lead brigade. This structure of non-task organized elements also provide the division the flexibility to rapidly tailor and deploy support packages for separate

brigades operations if the entire division does not deploy. With this type of organization, the division maintains a flexible base to respond to most tactical situations within hours of notification.

Prior to deployment, detailed planning for feeding, fueling, arming, maintaining, and loading the assault force is required at the staging base and any in route bases.

The brigade TAC CP will deploy with the lead battalion. The TAC CP is manned with full staff representation and sufficient communications to conduct brigade C2 and interface with division and EAD if required. Staff representation will include an S5, Civil Affairs (CA) liaison officer (LNO) , Psychological Operations (PSYOP) LNO and SJA. The brigade TOC will accompany follow-on battalions as the situation permits.

2. Organization: The Forward Command Company of the division signal battalion installs, operates, and maintains the brigade headquarters' multichannel access utilizing the following equipment.¹⁴

a. Equipment:

- * 2 ea AN/TRC-145 Multichannel Radio Terminals.
- * 1 ea AN/TTC-41V2 Telephone Switchboard.

- * 1 ea AN/TSC-93A Multichannel Satellite Terminal.

The brigade's organic communications platoon is organized and equipped to install the brigade's internal communications system and to extend the system to subordinate battalions. These assets and their capabilities include:

- * AN/UXC-7 Facsimiles for the transmission of data such as reports, graphics (i.e. overlays), and informal hard copy traffic over existing multichannel, wire, and radio systems.
- * AN/GRC-213 High frequency radios for extended distance voice links.
- * AN/VRC-12 Series radios (secured with Vinson) for command and control, intelligence, admin/log, and fire support nets.
- * Communications wire for use as the primary communications means during defensive operations.
- * AN/VRC-49 Retrans radio to extend FM (VHF) communications links.

b. Augmentation:

The brigade should be augmented from division with assets to establish links to the Joint Task Force (JTF) in the initial combat action phase, and Phase 3, Force Buildup. These assets are man-portable, single channel Tactical Satellite (TACSAT) radios and special aircraft antennas (called "hatch-mounts") that allow the radio to be used on the ground and in flight to the airhead. A minimum of six such systems is required (See FIGURE 3-2-55).

3. General Considerations for light-heavy contingency operations:

- * Face-to-face coordination by all unit signal officers must be done as soon as possible.
- * Signal support equipment increases the electronic signature of the maneuver force.
- * Size of supporting signal equipment increases the airframe needed to conduct the operation.
- * Signal-unique systems may require logistical support not readily available nor practical for rapid transport during contingency operations.

- * An available satellite space segment is necessary when extended conditions or difficult terrain requires the use of TACSATCOM systems.
- * Congested frequency spectrum and the requirement to deconflict at the highest level.
- * Sufficient assortment and supply of batteries (e.g., night vision devices, radios, etc).
- * Liaison officers should be employed whenever unlike elements combine to make up a contingency operation task force.
- * Use of standardized graphics and terminology.
- * Rehearsals must be done when time permits.
- * Intermingling of forces places increased burdens on command and control systems. Traffic control, fire support coordination, communications nets and facilities, and security and obstacle plans require close coordination and liaison between all headquarters involved.
- * Minimize the electromagnetic signature from CP locations whenever possible.

- * C, CS, and CSS assets augmenting the brigade should be placed in an attached status until parent organizations arrive in the airhead.

4. Limitations:

a. Light infantry unit radios have shorter ranges (8 to 30 km) than heavy unit radios. When light and heavy units are task organized, planning must account for the difference in ranges and employ either FM retrans or HF radios (AN/PSC3 LOS/SAT) if needed. Directional antennas can also be used to extend a radio's range¹⁵.

b. Planning must take advantage of all alternate means of communication, to include VHF, UHF satellite, HF, SHF satellite, multichannel, wire, messenger, and wire communication.

5. FIGURES 3-2-46 thru 3-2-55 depict nets which should be established during the SOF/LT/HVY Force contingency operation.

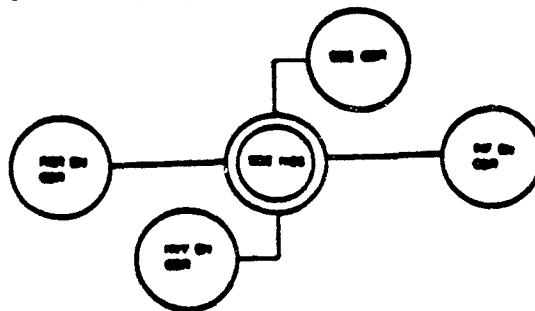


FIGURE 3-2-46. CONTINGENCY OPERATIONS EDE COMMAND FM NET.

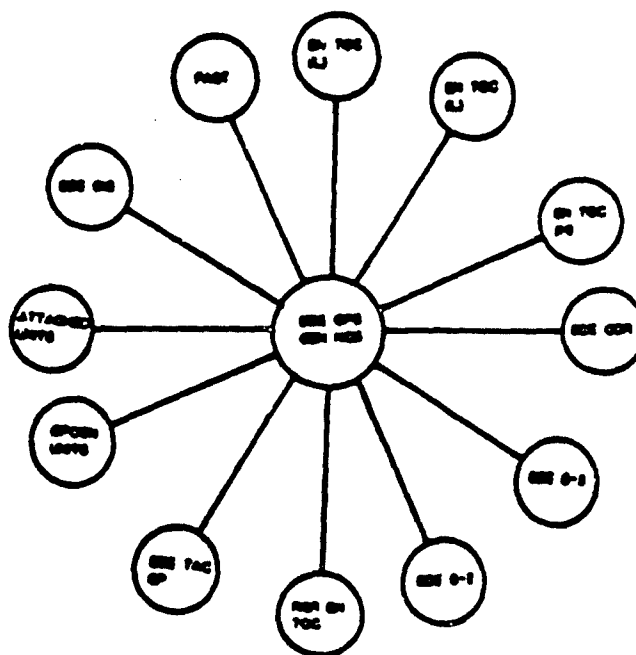


FIGURE 3-2-47. EDE OPERATIONS AND INTELLIGENCE (O&I) FM NET.

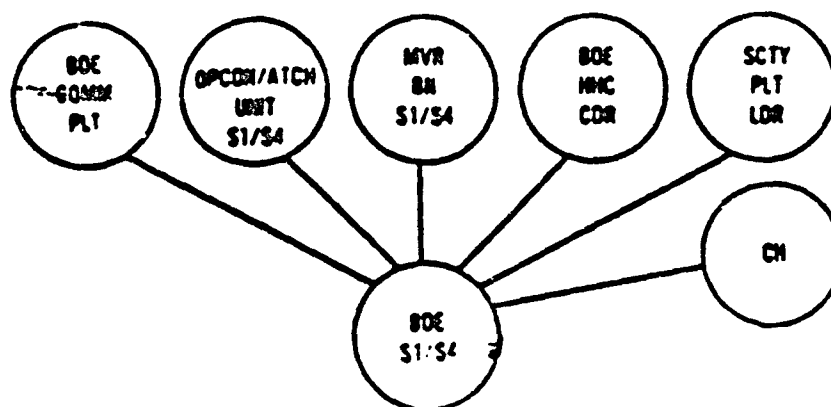


FIGURE 3-2-48. EDE ADMINISTRATIVE AND LOGISTICAL (A&L) FM NET.

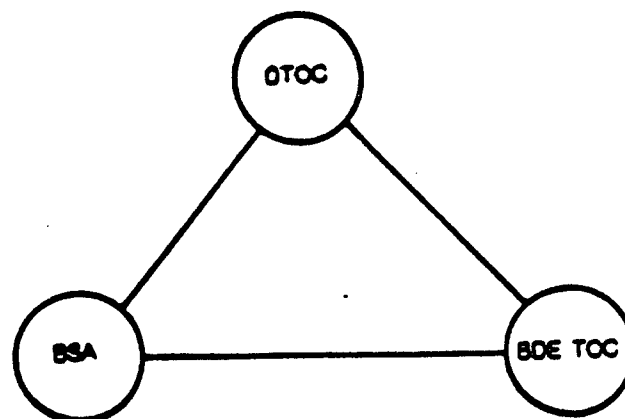


FIGURE 3-2-49. BDE MULTICHANNEL NET.

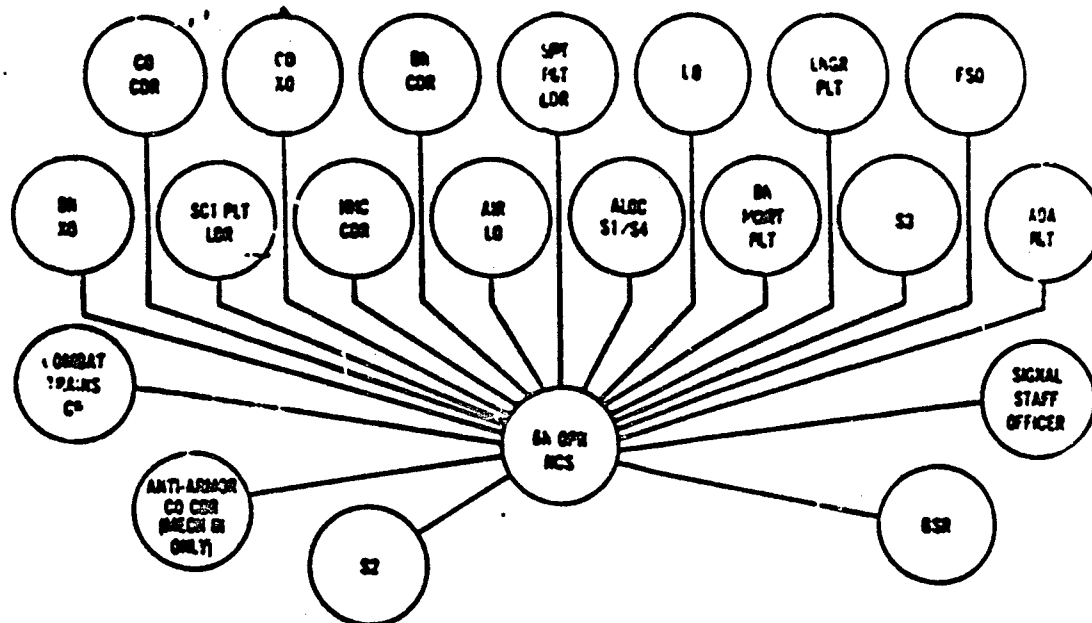


FIGURE 3-2-50. TASK FORCE/ BATTALION COMMAND FM NET.

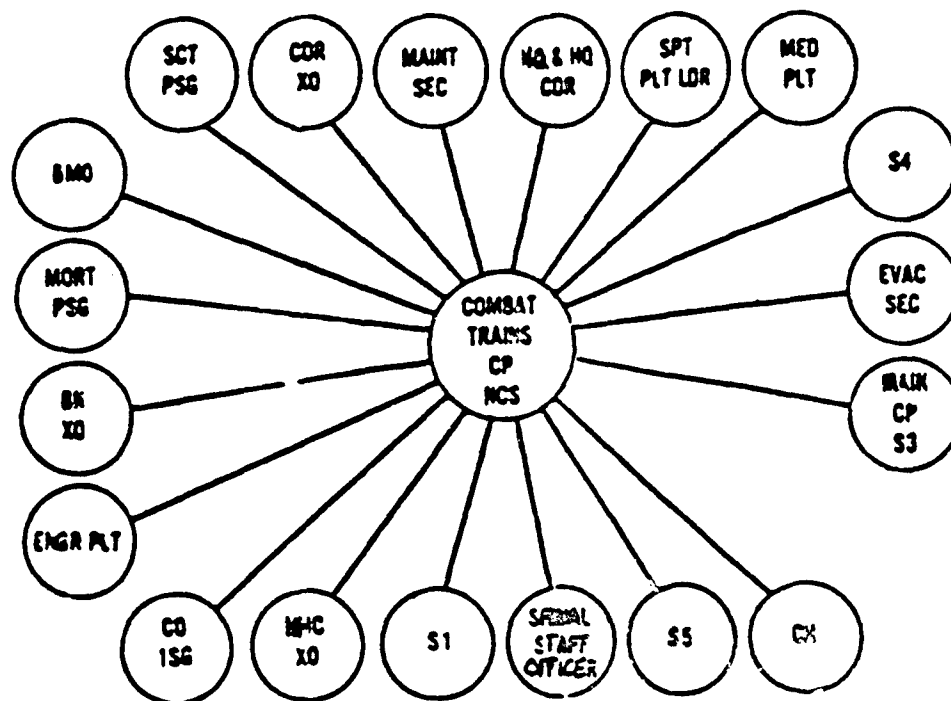


FIGURE 3-2-51. EN/TF ADMINISTRATIVE AND LOGISTICAL (ASL) FM NET.

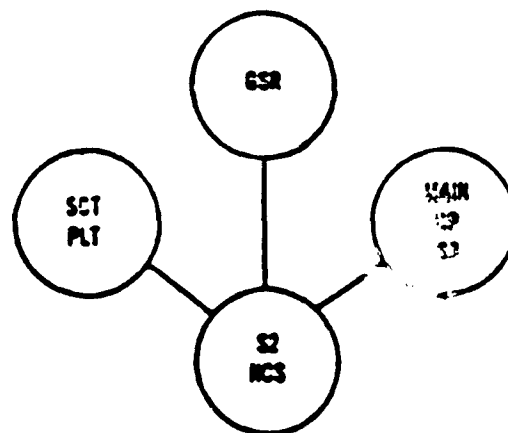


FIGURE 3-2-52. EN/TF OPERATIONS/INTELLIGENCE (OEI) FM NET.

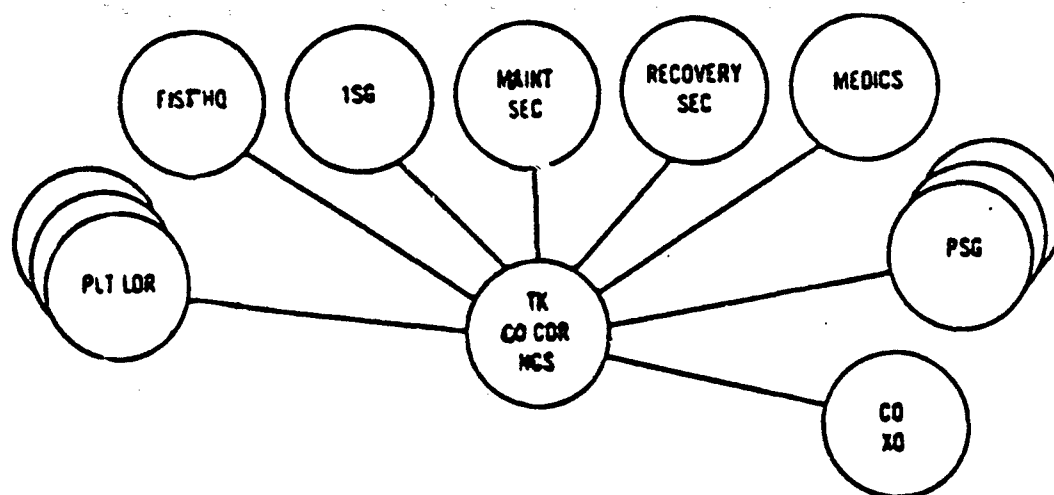


FIGURE 3-2-53. TANK COMPANY COMMAND AND OPERATIONS FM NET.

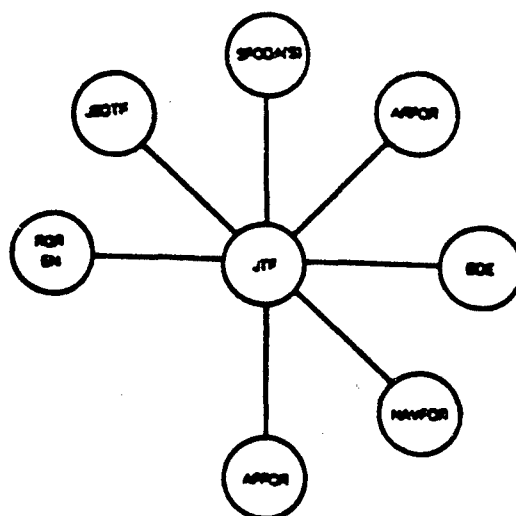


FIGURE 3-2-54. CONTINGENCY OPS SATELLITE NET
(12 CHANNELS) (TSC-93/A).

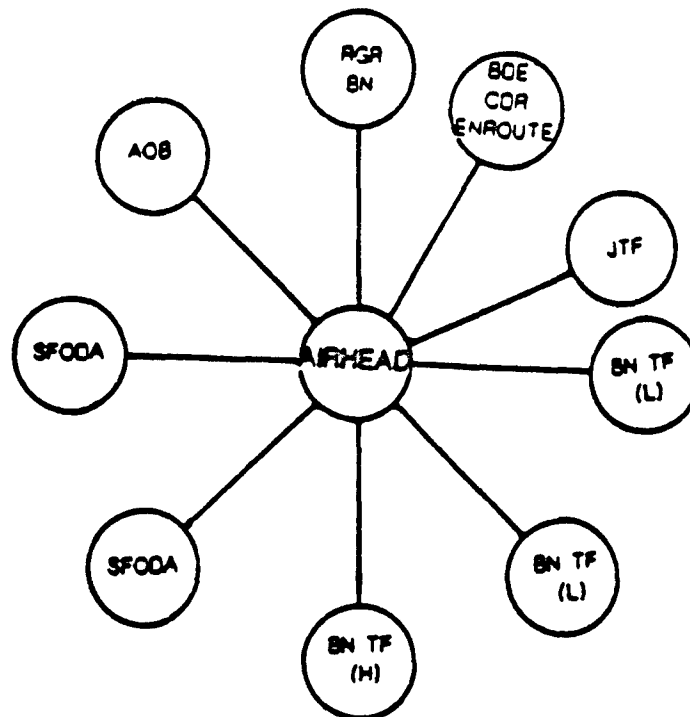


FIGURE 3-2-55. ENROUTE CONTINGENCY OPS SATELLITE COMMUNICATIONS.
(BASED ON AVAILABILITY OF SECOPS OR HATCH-MOUNT ANTENNAS.)

K. Sustainment.

1. Direct Support Level Sustainment:

a. Organization: The organization to support a light-heavy brigade in any operation will consist of elements from the Light Infantry Division Support Command (LID DISCOM), the heavy force DISCOM, and Corps Support Command (COSCOM) elements. Currently, light brigade support is organized as a Forward Area Support Team (FAST) with forward companies

from Maintenance, Medical, and Supply and Transport battalions, and a Forward Area Support Coordinating Office (FASCO) from the LID DISCOM headquarters. (See FIGURES 3-2-56 through 3-2-58)

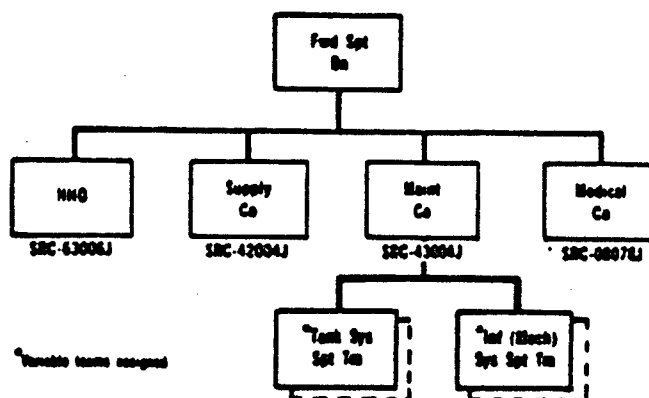


FIGURE 3-2-56. FORWARD SUPPORT BATTALION.

The FAST (as well as the entire LID DISCOM) is an austere organization. The LID DISCOM austerity is essential to ensuring required strategic deployability. Sustained operations, contingency operations, or operations in high intensity environments will require augmentation of light force sustainment capabilities. In addition, the LID DISCOM is not organized or structured to support heavy forces, and will require augmentation when heavy forces are attached. For light-heavy brigade contingency operations the FAST will require augmentation to:

- * Sustain operations in a contingency environment.
- * Support attached heavy forces.

The actual organization for a particular contingency operation is determined by factors of METT-T (See FIGURE 3-2-59 for suggested baseline model). Specific considerations for augmentation are discussed below for each sustainment function.

Planners must understand the support concepts and capabilities and limitations for light, heavy, and SOF organizations to build the proper support package. Relationships, responsibilities, and procedures must be coordinated and spelled out as the contingency force is being developed.

b. Light and Heavy DISCOM Structures:

The command and control structure of the light DISCOM is fundamentally different than that of the heavy DISCOM. The heavy DISCOM has a Main Support Battalion (MSB) in the Division Support Area (DSA) and a Forward Support Battalion (FSB) in each Brigade Support Area (BSA). This provides customers in the division rear (other than aviation brigade elements who also receive support from the aircraft maintenance company) one support battalion to provide all direct support level logistics and health services support. Likewise, in the brigade area, customers have one support battalion to provide direct support (DS) level support. In addition, the structure provides a lieutenant colonel battalion commander and staff to coordinate rear operations in the BSA.

The LID DISCOM, is functionally organized with S&T, maintenance, and medical battalions. As discussed above, the FAST consists of companies from these battalions under the coordination of the FASCO. Though the FASCO coordinates the efforts of the FAST, command and control of the companies is typically retained by the parent battalion. The FASCO office is not a battalion staff. The FASCO is not staffed to provide continuous command and control of the FAST for extended periods as is the FSB. The FASCO does not possess the ability to track current or future operations of the supported force. The FASCO is designed to facilitate coordination of support.

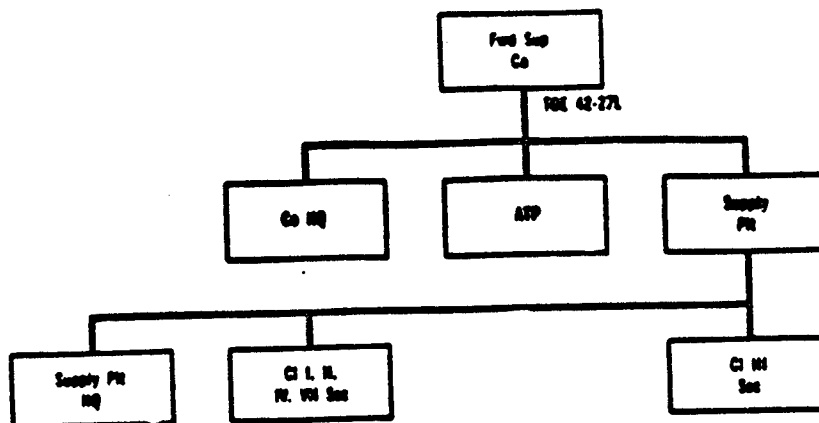


FIGURE 3-2-57. FORWARD SUPPLY COMPANY,
SUPPORT AND TRANSPORT BATTALION.

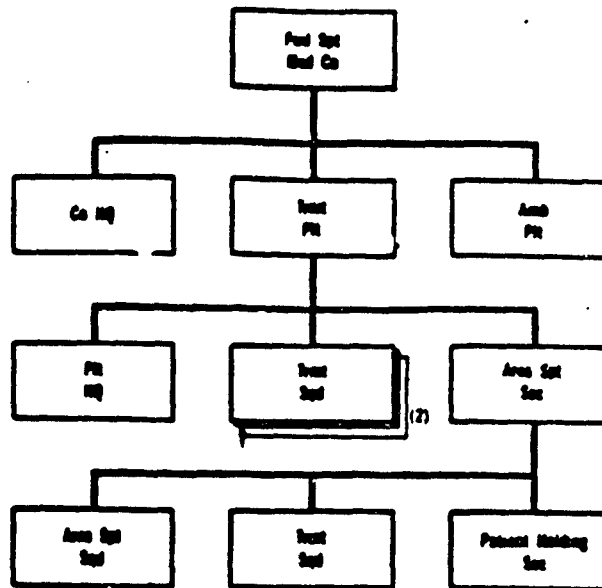


FIGURE 3-2-58. FORWARD SUPPORT MEDICAL COMPANY,
MEDICAL BATTALION.

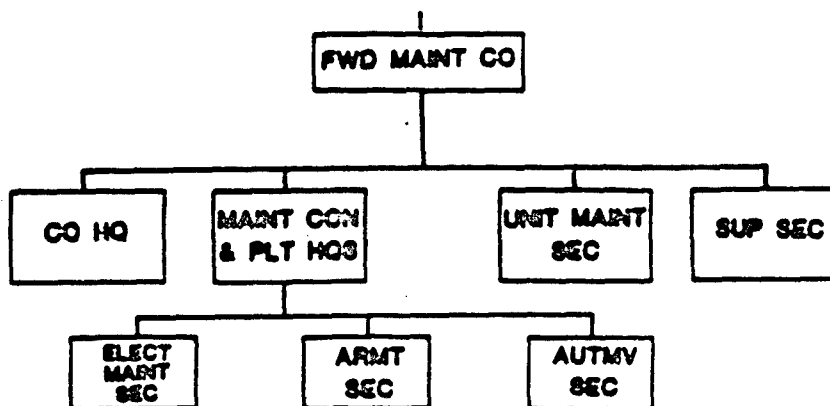


FIGURE 3-2-59. FORWARD SUPPORT MAINTENANCE COMPANY,
MAINTENANCE BATTALION.

c. In considering the proper command/ support relationship for any mix of light and heavy forces, the commander must consider the following:

- * The size and mission of the force.
- * The distance of the deploying force from the support base of the parent unit.
- * The support capability of the receiving force. This capability is particularly important to consider in the case of light forces, since different types of units have significantly different support capabilities.
- * The relationship between deploying support elements and receiving units.
- * The self sustainment capability of the deploying force.

In the particular case of a light brigade with a heavy battalion, there are two alternatives for supporting the light-heavy force. Either the battalion must continue to rely on its parent division/brigade for support or a significant package of support assets must come with the battalion. In a contingency operation, the latter technique should be used.

d. General Considerations for Light-Heavy Sustainment:

In considering the proper command/ support relationship for any mix of light and heavy forces, the commander must consider at least the following factors:

- * The size and mission of the force.
- * The distance of the deploying force from the support base of its parent unit.
- * The support capability of the receiving force. This capability is particularly important to consider in the case of light forces, since the different types of units have significantly different support capabilities.
- * The relationship between the deploying support element and the receiving unit.
- * The source of support for each force.
- * The self-sustaining capability of the deploying force.

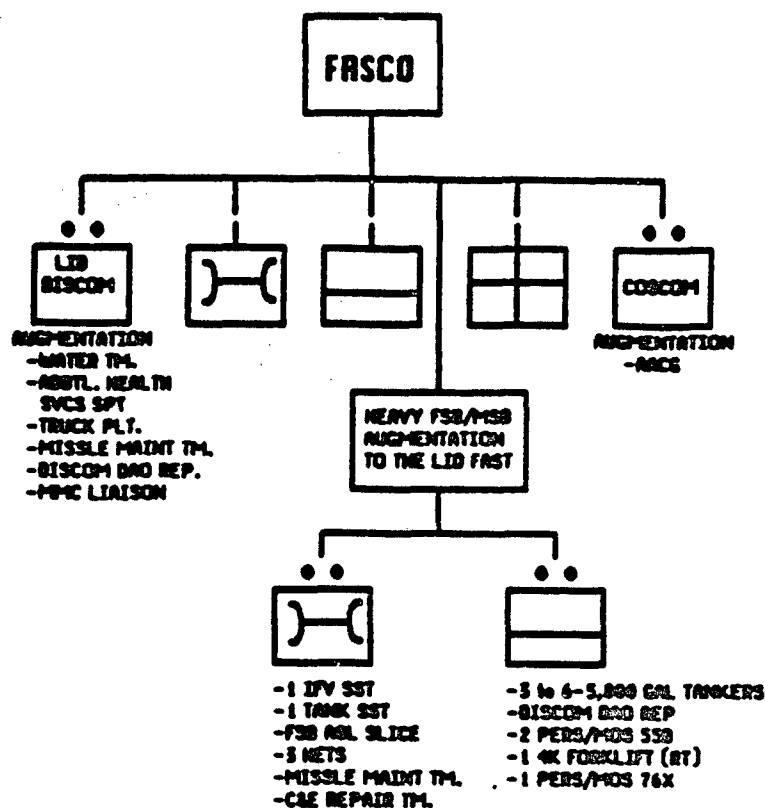


FIGURE 3-2-60. TYPE AUGMENTED FAST ORGANIZATION.

The preferred relationship for a heavy battalion task-organized to a light brigade is OPCON¹⁶. In such cases, the heavy battalion task force (with a support slice from the parent heavy DISCOM) continues to coordinate support requirements with its parent brigade S4 and to receive support from the FSB of the heavy DISCOM. The distance between the heavy battalion and its parent brigade support base, as well as the mission of the remaining elements of the brigade, are key considerations in determining whether the battalion can be sustained through an OPCON relationship. If OPCON is a feasible relationship, true

light-heavy support is not required. The heavy battalion will continue to be supported through the heavy force support system and the light force support system will sustain the light brigade.

If OPCON is not a feasible relationship, Attachment should be used. This method involves the cross-attachment of support assets from the heavy force support structure to the light. DISCOM commanders and staffs must understand the limitations and capabilities within the light DISCOM for supporting heavy forces. Support assets to be cross-attached are likely to be significant. This will stress the command and control structure of the light DISCOM, particularly in the BSA where the light FASCO staff is extremely austere. The headquarters of the light DISCOM may need to provide additional staff assistance to the FASCO. In addition, the FSB providing support assets to the light DISCOM should send a liaison team to the FASCO and the heavy DISCOM Material Management Center (MMC) should send a Material Management Element to assist the LID DISCOM in management of heavy support systems. (Additional support personnel and equipment will generate additional support requirements, such as feeding, maintenance, and health service support.) This method of support will typically be required in a contingency operation, and in such cases, the command and control challenge becomes even more complex. In the case of the light-heavy brigade in a contingency environment, a CSS C2 cell must be created to perform the following missions:

- * Provide logistics expertise and decision making ability that go beyond the scope of the FASCO capability.

- * Assist any follow-on forces, including heavy elements, on arrival and support their movement out of the BSA.
- * Coordinate area support to all units being supported from the BSA
- * Call forward from the DISCOM/ support base required CSS elements to further augment the FAST.
- * Provide management and communications links to the JTF/ Corps and DISCOM for the FAST.
- * Serve as the DISCOM (forward) if the mission expands and additional units, including DISCOM elements are brought in.

The C2 cell will expand to meet the needs of the mission. The FASCO will fall under the C2 cell and channel all requirements and actions through the cell. This C2 cell is led by the LID DISCOM Executive Officer, who is the "landlord" of the BSA. He is responsible for terrain management and security of the BSA. He coordinates support to follow-on units until additional FAST or heavy FSB elements can be brought in. This will require stockpiling supplies and ammunition before follow-on forces arrive.

The C2 cell must include light and heavy DISCOM personnel to provide expertise that addresses all classes of supply, services and logistical requirements. A sample C2 cell is found at FIGURE 3-2-60, though the actual cell will depend on the composition of the logistical task force supporting the operation. The C2 cell must be mobile, and have communications assets to communicate with the support base.

Cross-leveling enough assets from the FSB (and MSB) of the parent heavy DISCOM to support the light-heavy force will jeopardize the heavy DISCOM's ability to support remaining elements of the heavy force if it is fully committed. Therefore, a basic assumption involved in this method of supporting light-heavy forces is that not all forces will be engaged at the same time.

When light force elements are task-organized to a heavy force, planners in the heavy force must understand that light fighters are exactly that ... light. The more they have to carry, the slower they move and the smaller the advantage of their relative mobility in restricted terrain. Heavy force support planners must recognize that providing too much support forward involves considerable risk. Light forces do not have the assets to move large quantities of supplies and equipment. The lack of an ability to move significant amounts of reserve stocks means that planners must arrange for rapidly supplying packages of critical supplies to light units. These packages (too include Class IV items such as wire, mines, and survivability items) should be carefully planned in advance.

Regardless of the command/ support relationship, information must flow from the deployed unit to the controlling headquarters. This information includes:

- * Critical fuel and ammunition requirements.
- * Status of each class of supply.
- * Maintenance requirements and backlog.
- * Class IX requirements and availability.
- * Movement requirements and available transportation assets.
- * Availability of medical treatment and evacuation assets.
- * Locations of support elements.
- * Status of support personnel.
- * Anticipated support problems.

In addition, the CSS C2 cell must track the battle.

Typically in all types of operations, the FASCO collocates with the brigade S4 to follow the battle. Not only must they be aware of the threat to the BSA, but they must also keep track of the tactical situation in order to anticipate support requirements rather than being in the position of having to respond to requests for support.

e. Arm:

Under the Maneuver-Oriented Ammunition Distribution System (MOADS), the system for distributing ammunition is the same for the heavy and light divisions. The DAO in the DISCOM HHC/MMC is responsible for managing ammunition throughout the division. There is an Ammunition Transfer Point (ATP) in each BSA operated by the DISCOM. There will also be an ATP in the DSA operated by the non-divisional DS company. The goal for both types of divisions is 100 percent throughput of ammunition to the BSA ATP for units operating in the brigade area. Also, though the types of weapon systems differ significantly among divisions, the process of managing and replacing them is essentially the same.

There are differences between light and heavy organizations. In heavy divisions, the forward ATP is organic to the FSB. In light divisions, the ATPs are operated by the forward supply companies of the S&T battalion. The major difference is in the weapon

systems in each type division and the resultant consumption planning factors. Planners at unit level as well as within the DISCOM must be aware of the magnitude of the differences in ammunition consumption. Another difference is in the ground transportation assets available for emergency distribution of ammunition. The light division assets are austere, as discussed later in this chapter.

Until MOADS is fully implemented, there are other differences among divisions in ammunition resupply. First, the current heavy, airborne, and air assault DISCOMs operate an ATP in the DSA. However, the LID does not. LID elements in the division area will typically have to pick up ammunition at the nearest Ammunition Supply Point (ASP). In addition, even before MOADS is implemented, the LID will rely on loads configured for LID units by the nondivisional DS company.

For a light-heavy brigade, all elements (including the S4 of the supported heavy battalion) transmit requirements through the brigade S4 to the Division Ammunition Office (DAO). The DAO must plan in advance for Class V supplies for the different weapon systems of the heavy battalion, including the main guns. The key to arming the light-heavy force will be planning to ensure that the JTF/COSCOM is through-putting the right types and quantities of ammunition, and that the ATP has the capabilities to handle them. ATP personnel, with whatever assistance can be provided by receiving units, transload munitions from COSCOM assets to using unit vehicles. The ability of the LID DISCOM ATP to support a

light-heavy force will depend on a number of factors; the exact nature of the supported forces (including any artillery that may accompany the heavy battalion); the intensity and duration of the conflict.¹⁷ If expected consumption of the light-heavy force exceeds the capability of the light ATP, forklifts and operators from the FSB supporting the heavy battalion's parent brigade may be attached to the light forward supply company. At a minimum, this augmentation should consist of one DAO representative from the Heavy DISCOM, two ammunition handlers (CMF 55) and one 6,000-pound rough terrain forklift.¹⁸

Once anticipated consumption has been computed and any required cross-attachments of ATP assets have been made, the request and pickup/ distribution procedures are similar to those for pure light and heavy procedures. Requirements go through the brigade S4 to the DAO. Supported units (including support platoon assets of the supported heavy battalion) arrive at the ATP with a request for ammunition authenticated by the battalion S4. The DAO representative at the ATP validates the request.

When Class V supplies arrive at the ATP, the DAO representative inspects and inventories the shipments. He also ensures the shipping document is returned and forwards a receipt to the DAO.

Relocation of the ATP is minimized through thorough planning. If an ATP move is anticipated, it is coordinated among the DAO,

the ATP NCOIC, customers, the COSCOM/ JTF, and the FASCO. New shipments are directed to the new ATP site, while Class V supplies at the old site continue to be transloaded to customers' vehicles.

In a light-heavy contingency, the FAST will also likely require additional assets to operate a small ASP. Because the FAST is only staffed and equipped to transload ammunition, not store it, augmentation will be required. The augmentation (ammunition handlers and forklifts) may come from one of the other forward supply companies of the LID, the FSB's ATP, or the nondivisional ammunition company.

Barrier materials are not normally stocked by the FAST, particularly in the LID (which relies on preconfigured unit loads of hasty fortification and barrier materiel). The S4 of a supported heavy battalion should notify the FASCO of Class IV requirements as far in advance as possible. The FASCO will coordinate delivery using air throughput as close to the emplacement site as possible. Light battalions do not have the assets to move barrier materiel without downloading the bulk of their limited transportation assets.

f. Fuel:

In all divisions, bulk fuel is pushed to division Class III points on the basis of fuel forecasts and status reports. Each division operates Class III points in the DSA and each BSA. The Class III section

of the MMC (or the S&T battalion of the LID) manages Class III supply. In addition, aviation fuel in each division comes directly from echelons above division to the division aviation brigade.

The major differences among divisions are driven by the differences in consumption between the light and heavy divisions. As a result, huge differences exist among divisions in assets available for storage and distribution of bulk fuels. Though all divisions rely to some extent on throughput of fuel to BSA Class III points, there are no assets in the LID to provide additional resupply of forward Class III points from the main Class III point in the DSA. Planners must also take into account large aviation fuel requirements, particularly when supporting elements of an Air Assault Division.

Variations exist in fuel distribution techniques, though supply point distribution is the primary method used in most situations. In heavy divisions, FSB's will use organic 5,000-gallon tankers to refuel battalion support platoons with supply point distribution. LID FAST's, must deliver fuel (unit distribution) to light infantry battalion trains since the battalions do not have sufficient organic capability to go back to the Class III point and pick up fuel. In contingency operations fuel resupply may have to be provided by C-130 "Bladder Bird" aircraft. This technique will require additional planning and increased local-haul capability.

In all divisions, packaged petroleum products are handled by the Class II, III (packaged), IV, and VII supply point. Customers submit requests for products as required to their supporting supply point. Again, the principal difference is in consumption.

The key fueling considerations in the light-heavy brigade is the large consumption of fuel by the heavy battalion and the limited fuel haul capability available. The INO from the FSB, the Class III manager from the heavy force MMC, and the heavy battalion S4 must make sure the battalion's anticipated consumption is made known as forecasted requirements for the light-heavy force go from the brigade S4/FASCO to the Class III manager at the LID DISCOM.

The Class III point in the FAST forward supply company is capable of storing bulk fuels, but not in the quantities required if it must support a heavy battalion. 5,000-gallon tankers from the FSB (or MSB, depending on the missions of the parent brigade of the heavy battalion) will be required to receive, store, and issue the fuel required by the heavy task force. The exact number required will depend on METT-T. However, planners must bear in mind the FAST's assets are extremely limited and it has no organic tankers backing it up in the DSA. Consequently, the heavy battalion should bring more than a normal battalion slice. If the COSCOM cannot provide the additional throughput to the FAST required by the heavy task force, the heavy MSB may have to provide additional tankers to move fuel from the LID DSA to the BSA¹⁹.

In contingency operations where no ground line of communications (LOC) exists between the DSA and the BSA, The FAST must be augmented with additional fuel storage capability to compensate for the absence of a backup normally retained in the DSA. The augmented FAST must include fuel-handling personnel and equipment to receive, store, and issue aviation fuel to support aircraft of the brigade task force.

Planners must also consider the large requirement for quantities of fog oil if smoke operations are employed. Requirements vary based on duration of smoke operations, weather conditions, terrain, and environment. Distribution of fog oil from the BSA forward to smoke generator locations must be thoroughly planned and coordinated. The FAST has no organic assets to move fog oil forward. Either additional transportation assets must be provided the FAST, or chemical units will be required bring tank and pump units (TPU) or truck to carry fog oil drums forward.²⁰

g. Fix:

All DISCOMs are responsible for performing DS maintenance, reinforcing unit maintenance, and Class IX supply operations for their supported units. Management of Class IX and DS maintenance operations is performed by the MMC (or maintenance battalion of the LID). Beyond these similarities, the organizations and concepts for fixing the force vary widely among divisions.

The concept for the LID is unique. Minimal DS maintenance is performed in the brigade sector. The bulk of the DS maintenance capability in the LID DISCOM is in the DSA. Even there, assets are austere. Whereas the heavy DISCOMs have three maintenance companies (heavy, light, and missile) in the MSB, and the airborne and air assault divisions have heavy and light companies in the DSA, the LID has only a main support company in the DSA. To compensate for the austerity of its DS maintenance capability, the LID relies on increased pass-back (approximately 30%) to EAD maintenance elements and use of replacement over repair.

Although all divisions require DS maintenance reinforcement from nondivisional units, the LID's reliance is greater than that of other divisions. Three augmentation teams have been designated to accommodate the increased pass-back load associated with the LID.²¹ The LID maintenance support team and missile maintenance team are modules assigned to the nondivisional maintenance company. These teams, which may be attached to the LID maintenance battalion, must deploy soon after the division does in order to provide required sustainment. The Aviation Intermediate Maintenance (AVIM) team augments the capabilities of the nondivisional AVIM company.

Maintenance in the LID relies on replacement or exchange over repair. The exchange concept includes both reparable exchange and

use of an operational readiness float (ORF). Selected critical items may be included as ORF items to be exchanged with customers' unserviceable items in cases where the DISCOM cannot repair the items expeditiously. In developing ORF stockage, planners must take into account the austere transportation assets of the LID. Items such as small arms, radios, and large weapon systems such as howitzers may be appropriate. In addition, the missile maintenance concept for the LID depends on exchange of line replaceable units (LRU) and pass-back to nondivisional elements for repair.

Because of differences in maintenance concepts and organizations, fixing the light-heavy task organized brigade is a substantial challenge in all areas, including Class IX, Class VII, and maintenance operations.

The FAST's forward maintenance support company operates a Class IX point in the BSA. All brigade units (including the maintenance platoon of a heavy battalion) submit requests for common Class IX items (except Quick Service Supply (QSS) and direct exchange (DX) transactions) to the Class IX point. The key challenge is to have the right items in sufficient quantities to support the heavy task force. Not only does the light FAST maintenance company not stock many of the items required to maintain heavy equipment, it also has austere assets with which to receive, store, issue, and move Class IX items. In addition, the authorized stockage level (ASL) of the FSB supporting the heavy force is

for the entire brigade; it is not split out in battalion portions. Planners must be adept at building slices to support cross-attachments.

Another consideration in light-heavy operations is the lack of battery shop capability in the LID brigade. A heavy task force is a major consumer of automotive batteries. Planners must ensure the logistics task force can provide sufficient operating batteries to sustain the heavy force.

The ASL slice to accompany a maintenance team supporting a cross-attached heavy task force must also include the assets to move the Class IX items. The slice will vary depending on METT-T. Key factors will be the anticipated duration of the cross-attachment and the enemy's ability to inflict damage on heavy weapon systems.

If a cross-attachment is of short duration, a slice of the heavy FSB ASL may be sufficient. If the cross-attachment is for an extended period, planners must provide for sustaining Class IX operations, since the maintenance company in the light division rear area has no assets to provide support to heavy elements in the forward areas. In such cases, the MSB of the heavy DISCOM would have to provide additional Class IX resources to the light DISCOM.

As with the other distribution operations, once cross-attachments have been effected, Class IX request procedures are the

same. Requests are submitted to the forward maintenance support company, and supplies are provided by supply point distribution in the BSA.

Replacement of weapon systems and major assemblies for a heavy battalion supported by a light DISCOM presents the same type of challenge as Class IX supply. The light division has no assets to provide support to heavy forces, except for some items common to both force. If replacement becomes feasible in a specific scenario, it will require intensive coordination between the G3, G4, the division Class VII managers, and the COSCOM MMC. As with all Class VII replacements in light divisions, items are throughput from EAD to the using unit in a ready-to-use condition. In both heavy and light forces, replacements are based on combat loss reports. Planners must ensure the heavy battalion's losses are included in the light division's reporting system. Also weapons system replacement operations (WSRO) apply to both heavy and light forces.²² The weapons system managers maximize the number of operational weapons systems in accordance with the commander's priorities²³.

Light DISCOMs do not have the repairers, tools, or the repair parts to diagnose malfunctions and repair much of the equipment the heavy battalion will bring to a light-heavy mix. As an example, the LID forward maintenance company has no capability to perform repairs on missiles, engineer equipment, fire control systems, tank turrets, or tracked vehicles. Even the capabilities the company does possess, such as for communications-electronic (C-E) equipment, are limited since the

maintenance concept for the LID relies on replacements in forward areas and increased pass-back to EAD maintenance units.

Even short duration light-heavy mixes will require that the heavy task force be accompanied by significant maintenance assets. These will include the maintenance support team (MST) associated with the task force, along with FSB maintenance company assets to augment the FAST maintenance company. The MST will continue to work out of the heavy task force unit maintenance collection point (UMCP) and may be attached to the heavy task force.

The light DISCOM also lacks the capability to provide backup recovery support and evacuation of heavy equipment. To provide backup recovery assistance, tracked vehicle recovery assets must accompany the heavy task force. Whether heavy equipment transports (HET) are provided from the heavy DISCOM Transportation Motor Transport (TMT) company will depend on several factors such as the ability of the terrain to support the HET and the enemy's capability for disabling heavy weapon systems.

For extended operations, the maintenance company in the DCA (or whatever element is supporting the forward maintenance company) must also be augmented to provide reinforcing support to the FSB maintenance assets. Resources for augmentation may be drawn from the heavy DISCOM MSB (such as a missile repair team) or from EAD maintenance companies.

In addition to the augmentation it requires to support a heavy task force under any conditions, the FAST will need even more maintenance assets in a contingency operation. The austere maintenance company of the FAST depends on repair support from the main support company and EAD elements. In contingency operations, evacuation may have to be accomplished using backhaul aircraft. If pass-back to the DSA/ support base is not responsive enough to support a contingency operation, and local resources are not available, the FAST must be given additional capability from the main support company and nondivisional elements just to support light systems operations. Depending on the nature of the theater, planners must also ensure that support for LID-peculiar equipment is available. For the light-heavy brigade task force, even greater capability will be required (including repairers, parts, and tools) to sustain the force. In addition, essential AVIM assets must be deployed to the contingency area to support aviation operations. These assets may be provided by the parent DISCOM aircraft maintenance company or the COSCOM, and be attached to the AVUM unit supporting the aviation task force.

h. Sustain the Soldier:

Sustaining the soldier involves providing health service support, food, water, clothing, and field service support. The systems for sustaining the soldier are similar among divisions.

(1). Health Services Support:

Health service support systems in particular are adaptable to light heavy armor units. The medical support concept. The medical support concept, through types and quantities of medical support, varies among divisions, as do the battalions under which the medical support is organized. Medical management is performed by the division medical operations center in coordination with the Division Surgeon. The medical support system allows for easy reinforcement and rapid attachment of medical elements. Differences include the absence of medical support in the LID, lack of a surgical capability in the LID, and the presence of aeromedical evacuation assets in the Air Assault division.

In a brigade contingency operation, the FATT/FMT will have to be augmented with assets to perform health services otherwise provided out of the DEA. These may include an additional treatment squad, a patient-holding squad, a surgical squad, and general and aeromedical evacuation assets. For a light-heavy brigade, assets may come from the LID medical battalion headquarters and support company, the FID medical company, or the CROCM.²⁴

(2) Class I Support:

Subsistence support is also similar. Class I is pushed to the division on the basis of personnel strength reports. The LID, unlike the other divisions, depends on throughput of subsistence from FAD

to the Class I points in each BSA. The TMT company of the LID is not structured to transport subsistence from the DSA to the BSA.

Customers (including the mess section of the supported heavy battalion) of the light-heavy FAST, pick up rations at the BSA Class I point. If the FAST Class I point requires extra capability (which will depend principally on the exact composition of the light-heavy brigade), Class I assets (such as Subsistence Supply Specialists) from the heavy FSB may have to be cross-leveled.²⁵

Water distribution is similar to Class I. The headquarters and supply company of the light DISCOM S&T battalion (depending on availability of water sources and other water requirements of the light division), operates a water point in or near the BSA in the vicinity of the Class I point. In a contingency operation, planners must ensure the FAST is augmented with water point equipment and operators. In the LID, the water section delivers water whenever required to the light infantry battalions. In a contingency operation, planners must ensure delivery assets must also be deployed with the FAST. All other customers (including the supported heavy battalions) pick up water in organic assets and deliver to their subordinate units. If additional purification and storage assets are required, they will be provided by the COSCOM or through augmentation to the FAST by assets of the heavy DISCOM. Water supply for a contingency operation in an arid environment represents an especially significant challenge. The FAST requires augmentation to

provide adequate reserve storage capacity, as well as commitment of sufficient transportation (air and ground) assets to sufficient quantities of water are available throughout the area of operation.²⁶

(3). Class II Support:

The LID DISCOM stockage of Class II items is restricted to limited essential items. Selected items, such as NBC overgarments, may be provided as preconfigured unit loads. Heavy forces supporting LID elements must be aware of this. A heavy battalion supported by a FAST must recognize that the FAST will virtually have no stockage unless it's been augmented with assets to provide stockage and transportation.

Another consideration involved in Class II resupply for light-heavy forces is the provision of items peculiar to heavy forces, such as protective masks for tankers. Units should bring with them sufficient quantities of mission-essential items to sustain short-duration operations. Provision of such items through the light system for extended-duration operations requires detailed planning to ensure items are available at the Class II, III (packaged), IV, and VII supply point, operated by the forward supply company of the light FAST. If additional capability is required at the Class II, III(PKG), IV, and VII point, supply personnel and forklifts may be cross-attached from the heavy FSB supply company. Customers request items through the supply point and pick them up with organic transportation assets.²⁷

(4). Laundry, Clothing Exchange, and Bath Support:

Prior to the arrival of clothing, exchange, and bath (CEB) elements, soldiers of the light-heavy force use any available water or indigenous facilities for bathing and washing clothes. Unserviceable clothing is replaced by supply action through the Class II supply point. CEB support comes from the Field Services Company (DS). This organization has seven CEB teams and can support 18,500 soldiers per week. The team is capable of operating four CEB points, including one in each maneuver BSA when the tactical situation permits. Supported units of the brigade (including the S4 of a supported heavy battalion) coordinate for CEB support through the brigade S4 with the FASCO. The FASCO coordinates support through the support operations office of the DISCOM (or MMC of the LID) headquarters.²⁸

Light-heavy forces receive laundry and renovation services from corps field services companies as soon as the tactical situation permits. Brigade units (including the heavy battalion S4) coordinate support with the FASCO.

(5). Graves Registration:

Unit commanders (including the heavy battalion commander of a light-heavy force) are responsible for unit-level graves

registration functions. These include initial search, recovery, initial identification, and evacuation of deceased personnel to the nearest graves registration (GRREG) collection point (normally located in the BSA). This point is operated by a team from a GRREG augmentation section. The team receives deceased personnel from supported units, tentatively identifies the remains, and arranges through the FASCO for evacuation. If GRREG augmentation teams are not available for contingency operations, COSCOM GRREG assets may have to be deployed until augmentation teams are available. In contingency operations this will normally be accomplished via backhaul on resupply aircraft. Precautions should be taken to ensure wounded personnel are not transported together with the remains of deceased personnel.²⁹

i. Move:

Dismounted infantry in all light divisions have extremely limited ground mobility. If the light element of a light-heavy mix is required to have significant ground mobility to keep pace with the heavy element, additional transportation assets will have to be provided. No LID DISCOM transportation organization is designed to habitually provide assets for tactical moves while at the same time performing its CSS mission.

Movement is inherent in all CSS functions. It is integral to the arm, fuel, fix, and sustain the soldier functions. Several CSS

movement considerations for light-heavy mixes have already been addressed. Examples include differences in bulk fuel and emergency ammunition distribution.

Some aspects of CSS movements are the same in all DISCOMs. Every DISCOM has a movement control office (MCO) in its headquarters. The MCO is responsible for movement management support through control of the employment of the DISCOMs motor transport assets for CSS. Specific responsibilities and functions of the MCO apply to all divisions. Similarly, the primary transportation asset of all DISCOMs (in addition to the assets organic to the functional companies to perform their primary mission) is the Transportation Motor Transport (TMT) company. In the heavy and infantry divisions, the TMT company is organic to the MSB. In the light division, the TMT company falls under the S&T battalion. Trucks are used to move general supplies from the DSA to the BSA, transport reserve supplies, and assist in displacing division units that are less than 100 percent mobile.

The assets to perform the transportation mission vary widely among divisions. The austerity of assets in the LID is significant. The support concept for the LID is based on prepackaged loads being throughput to forward areas. Heavy forces having to support light elements will require COSCOM support in packaging loads and moving them directly to forward areas. Light forces in general also rely more on aerial delivery. In addition, the LID maintenance concept of reliance on

replacement forward depends on extensive backhaul of unserviceable components and end items.³⁰

The FAST itself has very limited transportation capability. It relies on COSCOM for such things as throughput of supplies from EAD to the BSA. Light-heavy operations will quickly overburden the transportation capability of the FAST. To overcome this deficiency the FAST will require additional transportation assets to perform the following tasks:

- * Move light infantry units.
- * Stockpile supplies.
- * Move emergency supplies or reserves for responsive support.
- * Move Class IV barrier material from the BSA to the emplacement site.
- * Move heavy equipment.
- * Provide supported units with supplemental transportation to move equipment or to provide emergency Class V or water resupply.

- * Enhance movement capability of the augmented FAST.

Due to limited transportation assets available during contingency operations, centralized management of transportation assets becomes critical to mission accomplishment. Contingency operations dictate the necessity to quickly establish a Joint Movement Control element to facilitate movement. Additional transportation considerations for contingency operations include:

- * Deployment of a Movement Control element early.
- * Establish secure, reliable communications with the rear support activity.
- * Gain control of available captured military/ civilian transportation assets within the contingency area of operation.
- * Integrate movement planning into contingency predeployment planning process.

j. Predeployment Considerations:

Before execution of a contingency operation, planners must

arrange for feeding, fueling, arming, maintaining, and loading the assault force and follow-on forces at the staging base and any intermediate bases. Time consuming maintenance activities and management functions will take place at the support base. Operational readiness floats (ORF) are used to maximize readiness prior to deployment. The source of supply must be identified early. It may be CONUS, designated OCONUS, or third country sources.

In the development of the composition and deployment sequence of the direct support logistics force, a primary consideration will be the availability of local resources in the area of operation, particularly fuel, transportation, facilities, labor, and services. Full advantage should be taken of any applicable host-nation support agreement, as well as local purchase or contracting. Other factors which influence the augmentation of the FAST include the responsiveness of support to the BSA and the length of time before a secure ground route opens between the contingency area and the support base. Appendix B provides a checklist for planner to consider during the development of the support force for a contingency operation.

Selected FAST elements must arrive soon after the combat units. Typically, the first FAST elements required will be to handle Class I, III, IX, and water as well as critical transportation, maintenance, and health service support assets. If applicable, personnel qualified and authorized to purchase goods and services, let contracts,

and render payment should be deployed early. The FAST will also need to establish an ATP or small ASP to support follow on operations.

There are three phases of supply in a contingency operation. These are accompanying, follow-on (automatic and on-call), and routine.

The assault force enters the area with accompanying supplies which represents the first phase of supply. Accompanying supplies for a contingency operation should include a minimum of three days' basic loads of Meals, Ready to Eat (MRE), Classes II, III, IV, V, and VIII, and the prescribed load of Class IX.

Fast supply elements must arrive ahead of second phase supplies, known as follow-on supplies. These will vary depending on METT-T including local availability of specific resources.

Since the assault force with three days of supply, At the end of the first day, there will be two days of supply left. On D+1, the brigade will consume another day of supply, so on D+1, two days of supply should be brought into the airhead, bringing the brigade back up to three days of supply. This is the desired operating level. Following D+1, the planning factor is to consume one day of supply, deliver one day of supply and so on each day.

Follow-on supply is used before the normal supply system is fully established and routine supply (the third phase of supply for contingency operations) can be initiated. Follow-on supplies can be delivered on the first day. They include supplies that planners anticipate to be critical in the early phases of the contingency, such as artillery ammunition, fuel, or water. Consumption of these items is estimated in advance, and they are configured in prepackaged loads and then on a sequenced and scheduled time delivery that the brigade plans before deployment, delivered automatically. Container deployment system (CDS) or low altitude parachute extraction system (LAPES) is particularly valuable. Airdrop can be used effectively to support follow-on supply operations. These methods allow supplies to be delivered to a variety of locations; reducing ground movement requirements.

There are two kinds of follow-on supply. These are automatic and on-call:

- * Automatic resupply is based on estimated requirements, delivered on a pre-planned schedule, and direct to the brigades and/or battalions.
- * On-call supplies is an emergency resupply to provide prepackaged loads for items whose consumption schedule cannot be predicted. Every type of contingency should be planned for in configuring these loads.

Another factor to consider is the possibility of use of captured supplies. Fuels can be used as soon as they have been tested. Barrier materials and construction materials can be used immediately. Captured subsistence supplies can be used to feed EPWs and civilian populations after it has been inspected by veterinary personnel and declared fit for human consumption. Capture Class VIII medical supplies may be used to treat EPWs and civilians.

Captured vehicles and equipment are normally reported through intelligence channels, and turned in to maintenance collection points. Other equipment may be turned into salvage points once established by the forward supply company.

Other specific considerations for units should include:

- * Reporting all enemy material captured or found through intelligence channels.
- * Considering all enemy material as booby-trapped. Access to material should be limited until it is determined to be safe and clear.
- * Reporting toxic agents to NBC elements in the brigade.

- * Reporting Class VIII medical materials to the forward medical company.
- * Having explosives examined by Explosive Ordinance Disposal (EOD) personnel.

Early on, maintenance support relies on component repair, battle damage assessment and repair (BDAR), and cannibalization of combat damaged equipment. The Air Force may provide a Mobile Air Surgical Facility to stabilize casualties evacuated to the airhead, and prepare them for evacuation by aircraft. Also during this phase, GRREG is essentially performed at unit-level. Units are responsible for initial identification, collection, and evacuation of remains to a point in the BSA. From there, remains are backhauled to the DSA/support base.

To control the various FAST elements which arrive early in the deployment sequence, key command and control elements of the CSS C2 cell described previously must also be on the ground early. Also, the control of the entire area must be clearly spelled out for all phases of the contingency operation. The brigade rear CP and the CSS C2 cell must carefully coordinate and identify specific responsibilities involved in control of the airhead and positioning and operations of the BSA elements. They must address security, terrain management, and movement control for each phase of the operation. For security and real estate

deconfliction, logistics facilities may be located near (but not away from) the airhead, and off possible enemy avenues of approach.

Prior to decisive combat operations, the remainder of the augmented FAST should arrive to provide the full range of support needed for this phase of the contingency operation.

2. Task Force Sustainment.

The organization, equipment, and personnel available for unit-level sustainment are discussed earlier in this chapter. The following addresses unit-level operations and light-heavy considerations.

a. LOGPAC Operations:

Unit logistics packages (LOGPACs) are utilized by both light and heavy battalions. This type of resupply operation has proven to be the most efficient method for resupplying forward task force units. LOGPACs are organized in the field trains by the company supply sergeant under the supervision of the HHC commander and the support platoon leader. LOGPACs are organized for each company team and separate element in the task force and moved forward at least daily for routine resupply. When possible, all LOGPACs are moved forward in a march unit, under the control of the support platoon leader. Special LOGPACs are organized and dispatched as required by the tactical situation and logistical demands.

The task force S4 must plan and coordinate LOGPAC operations to ensure that they fully support the commander's tactical plans.

(1) Heavy LOGPACs:

- * Unit supply truck. This vehicle contains the Class I requirements based on the ration cycle. The supply truck tows a water trailer and carries some full water cans for direct exchange. In addition, the truck carries any Class II supplies requested by the unit, incoming mail, and other items required by the unit. The truck may also carry replacement personnel.
- * POL trucks. Bulk fuel and packaged POL products are on these vehicles.
- * Ammunition trucks. These vehicles contain a mix of ammunition for the weapons systems of the company/team. Unit SOP establishes a standard load; reports and projected demands may require changes to this standard load.
- * Vehicles carrying additional supplies and replacements join the LOGPAC as coordinated by the support platoon leader and supply sergeant.

(2) Light LOGPACs.

- * LOGPACs for light units will contain the same type of supplies, but will not have as many vehicles in the LOGPAC. Fuel resupply will be accomplished utilizing 5-gallon cans.
- * LOGPACs for platoon-sized attachments are usually loaded on a single truck. Water and Class III resupply is often accomplished by using 5-gallon cans and pods mounted on trailers.

(3) LOGPAC operations:

When the company LOGPAC has been formed, it is ready to move forward under the control of the supply sergeant. The support platoon leader normally organizes a convoy for movement of all company LOGPACs under his control; in emergencies, he dispatches unit LOGPACs individually. The convoy may contain additional vehicles, such as a maintenance vehicle with Class IX to move to the unit maintenance collection point (UMCP), or an additional ammunition or fuel vehicle for the combat trains. The LOGPACs move along the MSR to a logistics release point (LRP), where the unit first sergeant or a unit guide takes control of the company LOGPAC.

LRP locations are determined by the task force S4 on the basis of METT-T (particularly the tactical situation). They should be well forward and easily located. Normally two to four LRPs are planned per task force. LRPs, supply routes, and locations of combat and field trains are included in the operations overlay whenever possible. The combat trains CP notifies subordinate elements and the field trains in advance which LRP or LRPs will be used. The LOGPAC convoy arrival time at the LRP and the length of time it remains are normally established by SOP. If the tactical situation dictates otherwise, the S4 must determine the time and notify units accordingly. LOGPACs may be scheduled to arrive shortly after arrival at a battle position (BP) or intermediate objective.

At least one senior representative from the combat trains (S4, S1, or senior NCO) should be present at the LRP while it is in effect. His purpose is to meet with the unit first sergeants and support platoon leader for coordination of logistical requirements, to ensure that the LOGPAC release and return takes place efficiently. A brief meeting is normally held immediately before the first sergeant picks up his LOGPAC. Coordination may include:

- * Changes in logistical requirements reflecting any last-minute task organization.
- * Reports on personnel and logistics from the first sergeants.

- * First-hand updates on the tactical situation and logistical status.

First sergeants or guides must ensure the resupply vehicles are returned to the LRP as soon as possible so that the vehicles can return to the field trains and begin preparation for the next mission. Class III and V vehicles never sit empty. If the LOGPAC cannot be completed on schedule, the combat trains CP must be notified. The supply sergeant collects outgoing mail, personnel, and equipment for movement to the rear. The LOGPAC then follows unit SOP and returns to the LRP or to the field trains and begins preparation for the next mission.

b. Other Support Techniques:

While LOGPACs are the preferred methods of resupply, there will be times when other methods of resupply are required.

(1) Emergency resupply may be conducted from the combat trains. The combat trains have a limited amount of Class III and V for emergencies. In arid environments, water must also be considered, and stocks should be maintained in an emergency reserve. For operations in desert climates a battalion trains should maintain a minimum of one 5-ton truck with two 500-gallon blivets (or comparable capability) in the trains at all times. Six quarts of water per soldier per day is required. The

task force S4 coordinates resupply from the combat trains and then refills or replaces the reserve.

(2) Pre-position or cache resupply is important particularly to light forces. The battalion pre-positions supplies and equipment on the battlefield and directs units to these supplies when moving from one location to another. Supplies and equipment are placed along a route to or at a location towards which the company is moving. This technique can be employed in both offensive and defensive operations, but is usually associated with defensive operations when supplies are positioned in subsequent battle positions. Control and coordination of pre-positioned items is critical to allow best use of them in a fluid tactical environment, or to ensure their destruction if compromised. There are two types of cache resupply:

- * Pre-stocking. Pre-stocking is the placing and concealing of supplies on the battlefield. This is normally done during defensive operations when supplies are placed in subsequent battle positions.
- * Mobile Pre-positioning. This is similar to pre-stocking, except that the supplies remain on the truck, which is positioned forward on the battlefield.

(3) When occupying an assembly area, companies are either supplied in their sector of the assembly area by support platoon assets, or acquire supplies from established battalion supply points.

(4) Aerial resupply operations require companies to be precise in identifying their requirements, as well as landing zones or pickup zones. The S4 must ensure support personnel are skilled in both internal and external aircraft loading and the battalion possesses the required air items (cargo nets, slings, and rigging equipment). Slingloading should be employed whenever possible and is an especially useful technique for lightening the soldier's load. However, enemy air defenses may limit these operations to periods of limited visibility.

c. Support of Other Task Force Elements:

(1). Resupply of the scout and mortar platoons, the main CP, combat trains, and attached support units must be planned and coordinated. The HHC first sergeant coordinates and supervises resupply of these elements. The HHC first sergeant operates near the task force main CP when forward and at the field trains CP upon completion of daily resupply.

The platoon sergeants or senior NCOs of these elements must report their requirements to the HHC first sergeant or to the combat

trains CP. The most desirable method of resupply is to form small LOGPACS for these elements, which the platoon sergeant picks up at the LRP in the same manner as a company first sergeant. Attachments larger than a platoon must come to the task force with sufficient CSS vehicles to form the LOGPACS.

In some cases, the HHC first sergeant delivers the LOGPAC to the main CP, combat trains, and scout and mortar platoons. Attachments can receive resupply at one of these locations, or as previously coordinated.

Another option is for attachments to be resupplied from a nearby company team LOGPAC. The S4 coordinates this resupply before the LOGPACS are dispatched.

(2). Units in direct support or under OPCON of the task force are responsible for the coordination of resupply of their elements operating forward with the task force, except as noted.

- * The ADA battalion or battery commander coordinates for the task force to resupply ADA units in direct support with some classes of supply. This may be directed in higher headquarters SOPs and usually includes Class I, III, and V, and common item IX.

- * The task force provides engineer materials (Classes IV and V) to supporting engineer units. Additionally, engineer units under OPCON of the task force receive Class I, III, V, and IX support to the maximum extent possible. This support is coordinated through or directed by brigade before the OPCON directive becomes effective.

The parent unit S4 or company commander of the supporting element coordinates with the task force S4 or HHC commander on resupply of the forward elements. Normally, the supporting units' resupply elements assemble in the BSA and move to the task force field trains area. The HHC commander then dispatches these resupply elements forward, along with the task force LOGPACs, to the LRP. At the LRP, the platoon sergeant of the forward supporting element takes control of the resupply element. These resupply elements maintain contact with the combat trains CP while forward in the task force area.

d. Sustainment Considerations for Light-Heavy or Heavy-Light Battalion Task Forces:

The command/support relationship must be clearly spelled out. An OPCON company continues to receive support through its parent battalion. An ATTACHED company receives support through the battalion to which it's attached. The attachment relationship as discussed later,

especially for the light-heavy battalion, may involve cross-leveling support assets between field trains.

The cross-attached company must provide a liaison officer to coordinate support between the battalion S4 and the company trains. The LNO may be the company executive officer or first sergeant. The LNO must clearly articulate the requirements to the S4. The S4 provides the LNO a unit tactical SOP. The SOP must cover use of the administrative/ logistics communications net and how logistics requirements and status are reported. Coordination must also cover convoy procedures and security measures.

Emergency ammunition for all elements of the task force, including cross-attachments should be maintained in the combat trains. Also cross-leveled transportation assets should be consolidated under centralized control.

(1) Light-Heavy Battalion Considerations: A typical support package accompanying a heavy company cross-attached to another task force may consist of:

- * A company mess team from the battalion mess section.
- * Fully loaded fuel trucks (3 TPUs for mechanized company, 3 HEMTTs for a tank company).

- * Fully loaded ammunition trucks from support platoon (3 X 5-ton trucks with trailers for mechanized company, 3 HEMITs for tank company). [NOTE: Three fuel and ammunition vehicles are required due to the austere support base.]
- * Medical aid/evacuation team which normally supports the company.
- * Company maintenance team with PLL clerk and tool truck and PLL trailer. Also, at least one M88 recovery vehicle and a slice of the battalion maintenance platoon services section.

Regardless of the command/ support relationship, the heavy company trains should include the medical, recovery, and contact team assets. Other elements of the support package are normally located in the field trains. If the heavy company is OPCON to the light battalion, the support elements should remain in the heavy battalion field trains. If the company is attached, the fuel, ammunition, food service, PLL, and other maintenance assets shift to the light battalion field trains and become fully integrated with them. Inclusion of these heavy support assets into the light trains will significantly (more than twofold) increase the size of the battalion trains. This may affect selection of

the trains site, and require additional security arrangements. The light battalion may be able to use the transportation assets accompanying the heavy company to assist in movement of light combat forces or casualties.

The light battalion must provide the heavy company support assets with the trains SOP. The heavy company LNO to the light battalion must ensure the battalion understands the extensive support requirements of the heavy company, particularly fuel and ammunition requirements.

(2) Heavy-Light Battalion Considerations: In most support areas, the heavy battalion has the assets to support a cross-attached light company. The heavy battalion S4 must understand that generally, light forces need resupply more frequently, but with much less material. The light CSS LNO to the heavy battalion must make clear these requirements.

When light forces are task-organized to a heavy force, heavy force planners must understand that light-forces are just that ... light. The more light soldier are required to carry, the slower they are able to move, and the smaller the advantage of their relative mobility in restricted terrain. The heavy battalion S4 must recognize that providing too much support forward involves considerable risk. Light forces do not have assets to move supplies or equipment at company level. The inability to move significant amounts of reserve stocks forces heavy planners to arrange for rapid resupply packages of critical supplies, as well as more

frequent routine resupply. Resupply packages must be planned and configured for delivery in advance.

The light LNO should coordinate with the heavy battalion S4 to create a company-sized emergency resupply package of Class I, III, V, and IX items. A technique for configuring these packages is to place small quantities of each commodity and use dufflebags for shipping containers. This technique provides flexibility and allows for rapid delivery by ground or air. This technique also ensures that too much resupply is not provided because of the space limitation of the dufflebag. The light company must also be integrated into the battalion LOGPAC operations.

The heavy battalion will not have any or sufficient basic loads and PLLs of items that are unique to the LID or possessed in greater quantities in the LID, such as 60-mm ammunition, night vision devices, and HMMWV parts. A slice of these assets should be cross-attached from the light trains to the heavy battalion field trains.

3. PERSONNEL SERVICE SUPPORT

a. Personnel Administration:

(1) The following tasks must be performed in order to provide required personnel and administrative support at:

* Brigade:³¹

- ** Conduct replacement operations.
- ** Perform strength accounting.
- ** Participate in the operations order process.
- ** Conduct by-name casualty reporting.
- ** Provide personnel and administrative support.
- ** If required, establish an EPW collection point.
- ** Manage the awards and decorations program.

* Battalion:³²

- ** Combat battlefield stress.
- ** Report casualties.
- ** Perform strength accounting.
- ** Conduct replacement operations.

- ** Process personnel and administrative actions.
- ** Establish a temporary EPW collection point.
- ** Participate in the operations order process.
- ** Provide morale, welfare, and recreational support.

(a) Brigade:

- * Strength Accounting. The brigade S-1 section will prepare and forward a consolidated brigade personnel status report (CBPSR) to parent division G1-AG section using long distance message or voice communication means. Accurate and timely strength data is essential to proper replacement operations. Strength accounting information is also essential to the commander and staff in planning and executing the battle.
- * Casualty Reporting. Casualty reporting procedures performed normally by the supporting Personnel Service Company (PSC) will have to be consolidated and reported by the Brigade S1 Section during contingency operations. Under this system, it is

likely that information will not be as accurate and prompt as it would be with the supporting PSC in closer proximity. Procedures for processing casualty feeder reports, casualty reports, CEPSR, data base update, command and control strength reporting system (C2SRS) must be addressed in the OPORD. This data, essential to the replacement system, will have to be transmitted using long range communication equipment from the brigade S1 to the higher headquarters and supporting PSC.

- * EPW. Unless a detachment of military police are deployed with the brigade, the Brigade S1 will have significant EPW responsibilities. Additional manpower will be required to administer and operate the EPW program.
- * Replacement Operations. No replacement operations personnel are organic to the light brigade. A replacement section will have to be established by the light brigade S1 section in order to process combat critical replacements.

(b) Battalion:

- * Personnel Reporting Procedures. All battalion personnel reporting procedures must be changed from the PSC to the Brigade S1.

(2) The Brigade S1 section must be augmented by division with the following minimum essential additional personnel in order to perform their combat critical tasks:

<u>Grade</u>	<u>MOS</u>	<u>Function(s)</u>
SPC	75C	Strength Mgt & Repl Ops
SGT	75C	Strength Mgt & Repl Ops
SGT	75E	Casualty
SGT	75B	Pers and Admin
SSG	75F	Data Base Mgt

FIGURE 3-2-61. BDE S1 AUGMENTATION.

(3) Additional equipment requirements are a TACCS V2 system for the Brigade S1 section to support strength reporting, casualty operations, replacement operations, and all other data base management programs.

b. Finance:

(1) There are no finance personnel organic to the deploying force.

(2) The following functions/tasks must be performed to meet the anticipated finance support requirements:

- * Provide financial support for local national hire actions.
- * Provide financial support for procurement of host nation supplies and equipment.
- * Provide financial support for S2/S5 and PSYOP operations.
- * Provide financial support for civil damage claims and for personal property claims.
- * Conduct mobile pay team operations for essential Class A Agent and soldier financial support.

(3) The contingency force must be augmented with the following personnel to perform the tasks listed in paragraph 2.

<u>Grade</u>	<u>MOS</u>	<u>Function(s)</u>
LT or SFC	44C/73C	Finance Officer
SSG or SGT	73C	Team Chief
SPC or PFC	73C	Finance Clerk

FIGURE 3-2-62. BDE FINANCE AUGMENTATION.

c. Public Affairs:³³

(1) There are no public affairs personnel organic to the light-heavy brigade contingency force.

(2) The following functions/collective tasks must be performed to provide public affairs support.³⁴

- * Provide command information.
- * Advise commanders and staff on the public affairs implications of unit missions and actions.
- * Provide limited Electronic News Gathering (ENG) to the command.
- * Provide media escort duties.

(3) A Public Affairs Team is required to provide public affairs support for a contingency operation. This team is comprised of the following personnel. This team should be deployed with the light brigade early in the operation.

<u>Public Affairs (PA) Team</u>
CPT/46A
SSG/46Q
SPC/46Q
SPC/46R
PFC/46Q

FIGURE 3-2-63. PUBLIC AFFAIRS TEAM.

(4) In unusual situations, or if the operation exceeds ten days, it is likely that an additional Public Affairs Team (PAT) would be required to augment the initially deployed PAT. Based on the size of the operation and the press representation in country, it is also possible that a Mobile Public Affairs Detachment (MPAD) might be required. This element has the following composition:

<u>Public Affairs (PA) DET</u>
1 - MAJ/46A
3 - CPT/46A
1 - SFC/46Q
3 - SSG/46Q
3 - SPC/46Q
3 - SPC/46R
3 - PFC/46Q
1 - PFC/71L

FIGURE 3-2-64. PUBLIC AFFAIRS DETACHMENT.

d. Unit Ministry Team (UMT):³⁵

The following functions/tasks must be performed at the levels indicated in order to provide required religious support.

(1) Brigade:

- * Advise the BDE commander on ethical issues.
- * Prepare and consolidate the religious support plan.
- * Provide technical control and coordination of battalion UMT.
- * Coordinate denominational support for the entire contingency force.
- * Advise the commander on indigenous religions.
- * Perform religious support for the brigade headquarters.
- * Advise the commander on unit morale, moral climate, and religious welfare.

- * Consolidate religious support requirements with the division staff.
- * Provide administrative, logistical, and training support for battalion UMTs.
- * Provide general religious support for units in the area of operations which have no UMT.

(2) Battalion:

- * Prepare the religious support plan.
- * Provide religious support, to include rites, sacraments, services, and ordinances.
- * Provide pastoral care to soldiers.
- * Advise the commander on unit morale, moral climate, and religious welfare.
- * Advise the commander on ethical issues in combat.
- * Advise the commander on indigenous religions.

- * Identify and coordinate religious support requirements with the brigade UMT.

- * Personal staff member to the BN Cdr.

e. Judge Advocate General:³⁶

- (1) A Staff Judge Advocate (SJA) should augment the light-heavy contingency force to properly perform legal tasks.

- (2) Legal services are provided in six functional areas: international/operational law, legal assistance, administrative law, claims, and criminal law, contract law. The SJA will provide all legal services at brigade in LIC or contingency operations, but the emphasis will be in the order below.

- (a) International/Operational Law. Low intensity Conflict (LIC) and contingency operations are politically sensitive and fraught with potential legal pitfalls. SJA will advise the commander not only on traditional law of war requirements, but also the requirements of U.S. (i.e. security assistance and intelligence statutes), and international law (i.e. mutual defense treaties and host rational support agreements). Moreover, U.S. forces may conduct combined operations with host country armed forces overseas. SJAs will advise the commander on the jurisdictional status of U.S. forces while in the host country; i.e. if a

U.S. soldier commits a crime in the host country, will the host nation have the authority to try him in their criminal courts? The SJA will also:

- * Provide advice during the preparation and review of operations plans, contingency plans, and operations orders for compliance with the law of war as required by DOD Directive 5100.77, DOD Law of War Program, 10 July 1979, and FORSCOM message, subject: Review of Operations Plans, 292030 October 1984.
- * Provide advice on lawful targets and weapons.
- * Provide advice on the disposition of alleged violations of the law of war.
- * Provide advice on the treatment of civilian refugees and enemy prisoners of war.
- * Prepare and review rules of engagement.
- * Provide advice on the seizure and requisition of private and public property.

(b) Criminal Law. The speedy, yet fair administration of military justice is critical to good order and discipline. The SJA will assist the commander to dispose of violations of the Uniform Code of Military Justice, including nonjudicial punishment (Article 15s) and courts martial.

(c) Administrative Law. This area of the law involves, among other things, military personnel actions (most are adverse to the soldier, involve soldiers with disciplinary or performance problems and require immediate resolution), standards of conduct, and security matters.

(d) Legal Assistance. Units often will deploy with little or no advance warning. Provision of legal assistance to soldiers is critical to their morale and welfare.

(e) Claims. Foreign claims must be resolved quickly and fairly. Prompt settlement of such claims minimizes interference with the mission by the local populace.

In addition, the unit probably will receive little or no civil affairs or combat procurement support. The SJA will be prepared to provide that support until reinforced.

(f) Contract Law. The commander should be aware of

the small purchase procedures for obtaining goods and services in a contingency environment. This includes the use of Imprest Funds, Standard Form 44s, and blanket purchase procedures. An individual with contracting authority for small purchases should deploy with the contingency force. The SJA will be prepared to advise and support.

4. Airfield Operations:³⁷

The personnel and equipment on the ground to support airfield operations for a light brigade contingency operation will depend on several factors. Who provides the personnel and equipment (the Army or the Air Force) will also vary.

The LID Tactical Air Liaison Officer (TALO) must arrive early to plan the operations of the airfield. In the case of a secure airfield, he will arrive before the brigade and link up with the force holding the airfield.

Whether the Air Force sends an airlift control element (ALCE) will depend primarily on the air flow, the types of loads (whether they are rolling stocks and troops or include large numbers of pallets to be unloaded and handled), and how long the air flow will continue.

Contingency operations employing airlifts with C130s onto an unimproved (dirt strip) airfield, with engine-running off-loads and only

one or two planes on the ground at a time, an ALCE may not be used. An ALCE will likely be provided if the air flow is to continue for more than two or three days, or if the magnitude of the air flow and number of pallets to be handled is large.

If an ALCE is provided, its size will be determined by the airflow. For a small air flow (2 or 3 aircraft) an ALCE of 5-10 personnel with equipment is adequate. For a large sustained air flow, a team of more than 100 could be deployed. Each ALCE will have a Military Airlift Command (MAC) organic command and control, communications, aircraft maintenance, and aerial port specialists.

Whether an ALCE is on location or not, an Army Arrival Control Group (AAG) must arrive early. The LID has only limited capability to perform an AAG mission. This consists primarily of the supply personnel and forklifts in the headquarters and supply company of the S&T battalion. It will require assistance from the COSCOM. An airfield movement control team arrives early to control clearance of the airfield. It maintains contact with units for pickup of equipment and with the transportation assets of the augmented FAST to coordinate movement to supply storage areas. Elements of a cargo transfer company may also need to arrive early to move supplies on the airhead and process cargo activities. It has both container-handling capability and standard forklifts and operators.

When these assets arrive depends on the security of the airfield. For an unsecure airfield, the first plane loads will carry troops and rolling stocks. Troops will conduct combat off-loads. With a more secure airfield, forklifts should be on the back (nearest the ramp) of one of the first plane loads, to assist in off-loading planes and moving assets in and around the airfield.

L. USAF Interface for Tactical Air Support and Airlift Support of U.S. Army Contingency Operations:³⁸

1. Tactical Air Control Party (TACP).

a. General: The USAF provides TACP to Army maneuver unit headquarters from corps through battalion/ cavalry squadron. The TACP personnel function as a special staff element to the commander within the assigned headquarters. TACPs are an extension of, and under operational control of the Air Support Operations Center (ASOC). They are the most forward tactical air control system operating elements that function with the land forces. Their purpose is to provide liaison to the supported ground commander on matters related to tactical air support and to provide terminal attack control for close air support (CAS) missions. Battalion TACPs are manned with two Tactical Air Command and Control Specialists (TACCS) and one Air Liaison Officer (ALO). At least one TACCS per battalion TACP is an Enlisted Terminal Attack Controller (ETAC) and

qualified to control CAS missions. Brigade TACPs are manned with two ALOs, one Tactical Airlift Liaison Officer (TALO), and three TACCS. TACPs are equipped by the USAF except special purpose vehicles (Armored Personnel Carriers) which enable the personnel to move and function with all maneuver elements.

b. Duties and Responsibilities: TACP duties fall into two general categories: liaison and control. The ALO is primarily responsible for liaison with the Army staff and performing CAS control. ETACs will augment the ALO in performing the CAS control mission. This section deals with their responsibilities as they apply to tactical air support provided to the battalion and brigade. TACPs will:

- * Advise the Army commander and staff on capabilities, and the use of tactical air power.
- * Assist the Army commander and staff in planning TACAIR operations providing tactical expertise and a focal point for detailed integration of tactical air support with the fire and maneuver of ground forces.
- * Provide coordination and attack planning for Joint Suppression of Enemy Air Defenses (J-SEAD) operations and targets in position for near-term effect on friendly forces.

- * Operate and maintain the Air Force tactical air request net (TARN) and the tactical air direction net.
- * Provide terminal attack control of aircraft performing CAS.
- * Report air mission results to the Air Force flight lead, the ASOC, and the supported Intelligence officer.
- * Coordinate tactical air support missions with the Fire Support Element (FSE) and the appropriate A2C2 elements.
- * Integrate tactical air support sorties with the Army scheme of maneuver.

With the FSCoord they:

- * Advise on capabilities of fire support assets, recommend use of fire support resources, and coordinate all fire support used against surface targets.
- * Provide target information on CAS/BAI to G3 Air for planning purposes.
- * Obtain target information from the G2 and other intelligence sources and ensures attack of priority targets by the most

appropriate means.

- * Maintain current status information on fire support available to the command.
- * Coordinate field artillery requirements for use of airspace and keep all elements informed on the status of planned special ammunition fires.
- * Recommend targets for attack by air-delivered special ammunition.

2. AIRLIFT INTERFACE AND AUSTERE AIRFIELD OPERATIONS

The airlift interface is conducted between the Air Force and Army at brigade level by the TALO assigned to the brigade. The TALO is an airlift expert who provides the detailed planning and coordination of Air Force airlift support of combat operations. Basic planning numbers are shown at FIGURE 3-2-61.

ACFT TYPE	LOAD		RUNWAY LENGTH	CARGO	
	MAX CBT	PLANNING		PALLETS	TYPE
C5	291K	120K	5,000	36	OUTSIZE
C17	172K	—	2,000	18	OUTSIZE
C141	89K	56K	5,000	13	OVERSIZE
C130	45K	30K	2,000	5	OVERSIZE

FIGURE 3-2-65. USAF AIRCRAFT PLANNING FACTORS.

CL30	LOADS
CDS*	CL I, II, V, VIII
HVY DROP	CL II, IV, V, VII
LAPES	CL IV, HVY EQP

*16 122 BAGS/LOAD

FIGURE 3-2-66. CL30 LOAD TYPE PLANNING FACTORS.

The Combat Control Team (OCT) has the mission to rapidly establish assault drops, landings, and extraction zones in austere and nonpermissive environments. This team can be airdropped or air assaulted onto the battlefield to perform the following functions:

- * Control landing traffic in the objective area.
- * Mark and clear zones.
- * Establish communications.
- * Site selection and aircrew support

Once the airfield or landing site is secured, the OCT continues to provide air traffic control and airspace management. The Airlift Control Element (ALCE) assumes control of the secured airfield and provides command and control for flights following. The ALCE and OCT functions are:

- * Locate at the onload, offload, and staging bases and control the flow of air traffic into the site. (Normal air traffic control functions of airspace management and aircraft ground movement are retained by the CCT.)
- * Operate from tents or fixed facilities at austere locations to exercise on-site OPCON for the airlift control center (ALOC).

The Airlift Control Center (ALOC) is the operations center in theater for airlift. The ALOC provide command, control, planning, and tasking for theater airlift.

ENDNOTES

- 1 JCS Pub 5.00.2, Joint Task Force Operations, Department of Defense.
- 2 JCS Pub 3-05, Doctrine for Joint Special Operations, Department of Defense.
- 3 FM 100-25, Doctrine for Army Special Operations Forces, Department of the Army.
- 4 FM 31-20, Special Forces Operations, Department of the Army.
- 5 FM 100-25.
- 6 FM 100-25.
- 7 FM 100-25.
- 8 FM 41-10, Civil Affairs Operations, Department of the Army.
- 9 FM 7-10.

- 10 FM 33-1, Psychological Operations, Department of the Army.
- 11 FM 34-60, Counterintelligence, Department of the Army.
- 12 FM 34-60A, Counterintelligence Operations (U), Department of the Army.
- 13 FM 19-1, Military Police Support for the Air-Land Battle, Department of the Army.
- 14 FM 24-1, Combat Communications, Department of the Army.
- 15 FM 24-18, Tactical Single-Channel Radio Communications Techniques, Department of the Army.
- 16 FM 71-100, Division Operations, Department of the Army.
- 17 FM 63-2-2, Combat Service Support Operations, Department of the Army.
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- 20 FM 3-50, Deliberate Smoke Operations, Department of the Army.
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- 23 FM 100-10, Combat Service Support, Department of the Army.
- 24 FM 8-10, Health Service Support in a Theater of Operations, Department of the Army.
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CHAPTER FOUR

APPLICATION OF STUDY AND ANALYSIS

APPLICATION OF STUDY AND ANALYSIS

This chapter is presents a model designed to demonstrate methods of employment for light, heavy, and special operations forces conducting Strike Operations. The tactics and techniques in this chapter are not to be construed as the ultimate solution for tactically employing a mixed force of light, heavy, and SOF in a contingency Strike Operation.

The environment and location of the of the model is purposely vague. The examples are intended to provide a tactical base line to which mission, enemy, terrain, troops, time, and politics are applied. The model is based on the likely sequence of event a force is likely to encounter during an actual operation. The accuracy of the model was verified at the National training Center, as well as with the Infantry School and Special Warfare Center, and with units that participated in Operation "Just Cause".

The tactics and techniques are valid and have been used in previous training and combat operations. The tactics and techniques described in this chapter are intended to demonstrate the doctrine described in the previous chapter. This chapter is not intended to be a "cookie cutter solution" for mixing light, heavy, and Special Operations Forces.

The chapter is divided into four parts. Each part describes a different

phase of combat operations. Part 1 addresses deployment and initial combat operations. Part 2 describes force buildup and combat operations. Part 3 covers decisive combat operation, both offensive and defensive. Part 4 focuses on redeployment and host nation development. Not discussed in this chapter are operations involving "pure" forces, that is those forces, light, heavy, or SOF that are not mixed with other forces. Doctrinal sources are available containing those tactics and techniques.

PART ONE: DEPLOYMENT/INITIAL COMBAT.

Section I. Introduction.

This phase initiates the execution of the operation and encompasses entry and the establishment of an initial lodgement in the objective area. The strength and composition of the first elements of the force to arrive in the area of operation will depend on mission, enemy, troops, terrain, time, and politics (METT-T-P). Factors will include friendly host nation forces which could provide security, enemy strength and capabilities, and availability of other US forces to provide support. Depending on the crisis, this may require forced entry into a hostile, chaotic, or seemingly low threat environment.¹

During this phase, special operations forces (SOF) provides the Joint Task Force (JTF) commander the capability to employ Special Forces special reconnaissance (SR) teams in the objective area to relay time sensitive intelligence to the force, direct action Special Forces teams to assist the entry of the assault force and a Ranger forced entry capability to establish an airhead. Follow-on forces must be prepared not only to close into the objective area, but also to reinforce the assault. If an armored or mechanized threat is present, an antiarmor capability must accompany either the initial assault or the immediate follow-on assault forces. Aviation and field artillery assets provide a combined arms capability.

An air defense umbrella must be established to protect critical assets. Engineers will repair runways for follow-on forces and provide mobility support to ground forces. A critical aspect of this phase is the synchronization of joint combat power during the assault operation.

During the deployment and initial combat phase, SOF initiates operations in denied areas to conduct surveillance, provide intelligence, and seize or destroy critical targets. The Special Forces Operational Detachment-A (SFODA) infiltrate via air, sea, and/or land to conduct special reconnaissance (SR) and direct action (DA) missions in support of follow-on SOF or light-heavy units. SFODAs conduct special reconnaissance missions to provide real-time intelligence on Ranger task force (TF) targets, enemy reaction forces, and direct action missions to support the Ranger or light-heavy TF penetration of the objective area.

Ranger forces conduct deep penetration raids and ambushes against targets of strategic or operational significance. Typical targets include:

- * Command, control, communications, and intelligence centers at Front or Army levels.
- * Nuclear, biological, and chemical weapons storage sites and delivery means.

- * Key logistical centers
- * Air defense and air traffic control integrating centers and air defense weapons sites.
- * Radio and television stations, and microwave terminals.
- * Key power generation and distribution facilities.
- * Ports, rail complexes, and airfields.
- * Key choke points (bridges, tunnels, locks, and dams) on vital lines of communications (LOC).

Larger Ranger units normally conduct interdiction raids and ambushes only when other systems fail or are unavailable and the target is of such significance that it must be attacked. Small Ranger forces conduct interdiction missions to disrupt, delay, or canalize the enemy's movement, and to create opportunities for friendly conventional forces to seize the initiative in close operations.

Ranger recover operations are specialized raids and ambushes to capture, rescue, or recover designated personnel or items of equipment or material. Ranger forces use surprise and combat power to overwhelm

resistance before harm can come to the personnel, equipment, or material being recovered.

In addition to special operations (SO), Ranger forces also perform special light infantry operations in direct support of conventional forces. These operations include many of the light infantry missions normally assigned to airborne, air assault, or light infantry units. Ranger units are tasked to perform these missions when conventional light infantry forces cannot perform the mission.² Special light infantry operations include, but are not limited to :

- * Infiltration on foot behind enemy lines.
- * Forced entry by airborne or amphibious assault.
- * Raids and ambushes.
- * Limited antiarmor operations on restrictive terrain.
- * Military operations in urban terrain (MOUT).
- * Perimeter defense to control key terrain, gain time, or economize forces.
- * Break-out from an encirclement.

- * Linkup operations with other friendly ground forces.

Civil Affairs (CA) and Psychological Operations (PSYOP) elements support the Ranger TF by controlling or influencing noncombatants and enemy soldiers. Air Force (USAF) and Special Operations Aviation (SOA) aircraft are utilized to provide covert infiltration and fire support for SOF elements. The SOF units in the denied areas create a lodgement and provide intelligence for the follow-on conventional forces.

Section II. Special Reconnaissance (SR)

SR missions are directed and controlled by a SO headquarters. They are predominantly conducted by US Army Special Forces. This section discusses the nature of, and employment considerations for SR operations. Also provided are employment considerations for SR operations.

A. Nature of Special Reconnaissance.

SR operations encompass a broad range of intelligence collection activities, to include reconnaissance, surveillance, and target acquisition. These operations are usually conducted unilaterally, but may involve combined activities with foreign personnel. The SR collection effort emphasizes US unilateral or alliance intelligence requirements, and

complements other national and theater collection systems (high altitude and space based imagery or Signal Intelligence [SIGINT]) that are more vulnerable to weather, terrain masking, and hostile countermeasures.

SR operations can be broken into broad categories of battlefield reconnaissance and surveillance.³ Battlefield reconnaissance and surveillance involves the use of standard patrolling tactics and techniques.

B. Employment Considerations.

SFODAs are employed on missions which require capabilities beyond those of conventional long-range surveillance units (LRSU); requirements for infiltration by SOF unique platforms (USAF, Army special operations aviation, or US Navy underwater delivery); the political sensitivity of pre-hostility cross-border operations; or SOF unique capabilities (language, regional/cultural expertise, SF tradecraft). SR missions are often extended in duration, and beyond or in the absence of conventional fire support and sustainment means. SR may involve the use of standard patrolling tactics and techniques (battlefield reconnaissance and surveillance), or it may be conducted by personnel using clothing and equipment that can not be traced. SF teams may conduct unilateral collection missions in hostile areas where the threat precludes the use of other Human Intelligence (HUMINT) means.

A single SF team can usually accomplish the reconnaissance and surveillance of a fixed facility or other point target. A SF team may conduct this type of SR mission against any of the following types of targets:

- * Airfields.
- * Nuclear or chemical weapons storage sites.
- * Hostage, Prisoner of War (PW), or civilian detention facilities.
- * High-level headquarters.
- * Insurgent or terrorist training camps or safe houses.

Collecting and reporting hostile troop movements and other order of battle (OB) data normally requires the coordinated effort of a significant number of SF teams. The controlling headquarters must establish a network of named areas of interest arranged in depth to increase the reliability of the effort and estimate movement rates. When tasked to perform this sort of SR mission, the forward operating base (FOB) commander identifies the possible hostile courses of action that concern the supported friendly commander. For each course of action, the all-source production section (ASPS) determines where SF teams could reasonably observe those indicators

and report the information in time for the supported commander to react to it. Based on this intelligence preparation of the battlefield (IPB), the S2 develops Named Areas of Interest (NAI) for target development. The tasked SF teams identify specific surveillance sites within the NAIs and plan the rest of their mission around these sites.

An SR mission can also use a Support Operations Team - Alpha (SOT-A) which provides a SIGINT and Electronic Warfare (EW) capability to a deployed SFODA. The SOT-A provides limited Electronic Warfare Support Measures (ESM) by intercept, identification, and location of hostile transmitters, providing information for electronic counter measures (ECM), electronic counter-counter measures (ECCM), targeting, and combat operations.

C. Communications Requirements.

Communications requirements are particularly critical in SR operations. The SF teams must be able to report near real-time information directly to the user of the information. This is done using secure burst satellite communications from a digital message device, ground (DMDG) . Even more important, SF team members must know what specific information the user requires, in what priority, and what the reporting procedures are. Using this knowledge, the team does not endanger itself unnecessarily by collecting and reporting the wrong

information. The team must weigh the user's need for specific near real-time information against the risk of compromise.

When SFODAs conduct SR missions for a SOF headquarters, but within a conventional units area of interest, it may provide information through the SOOCE liaison to the conventional force headquarters (Corps/Div).

D. Battlefield Operating Systems (BOS).

The following considerations by battlefield operating system (BOS) for the employment of special forces special reconnaissance teams during the deployment/initial combat phase of a contingency operation.

1. Intelligence:

- * Special Reconnaissance (SR) provides the CINC, JTF, JSOTF, and/or ARFOR commander the ability to conduct HUMINT collection in denied areas at the strategic, operational, and tactical level.
- * Reports contain near real-time sensitive information which provides the commander the ability to monitor and/or disrupt the enemy commander's scheme of maneuver.

- * SR teams can locate and if augmented with a SOT-A, can monitor critical command, control, and communications (C3) nodes.
- * Make initial contact with an indigenous resistance organization and conduct the assessment of resistance potential.
- * Collect strategic political, economic, psychological, or military information.
- * Collect critical military OB information (for example, NBC capabilities and intentions, commitment of forces, and location of high-level headquarters).
- * Collect technical military information.
- * Target acquisition and surveillance of hostile command and control systems, troop concentrations, deep strike weapons, LOCs, and other military targets of strategic, operational, or tactical significance.
- * Locate and surveil hostage, PW, or political prisoner detention facilities.

- * Collection of meteorologic, geographic, or hydrographic data to support specific aerospace, land, or maritime operations.
- * Space based reconnaissance, surveillance, and target acquisition (RSTA) can augment SR team information.

2. Maneuver:

- * The near real-time information provided by the SF, SR team allows the commander in chief (CINC), joint task force (JTF) or Army component (ARFOR) commander to position his forces to decisively defeat the enemy.
- * If a critical situation arises requiring immediate direct action, the SR team may be able to accomplish the DA mission. This is subject to equipment and personnel limitations of the deployed team.

3. Fire Support:

- * Conduct terminal guidance operations using laser target designators or beacons in conjunction with high performance aircraft conducting CAS.
- * Conduct target acquisition and direct non-attributable fires (artillery or CAS).

- * Special Operations command and control element (SOCCF)
[liaison team to the JTF] coordinates and updates no fire
areas around SOF locations.

4. Mobility/Counter mobility/Survivability:

- * Locations and capabilities of host nation engineer equipment
resources to reduce lift assets consumed by engineer
equipment.
- * Capability of road network to support main supply routes
(MSR) and requirements for improvement.
- * Anticipated condition of airfield/port after seizure and
repair/upgrade requirements to support force buildup.
- * Ability of the lodgement area to support force
buildup/logistic operations and sustainment engineering
requirements.
- * Extent of enemy obstacle and fortification preparations
around the airfield/port to be seized; assessment of force's
capability to breach enemy defense without engineer
augmentation.

- * Ability of the enemy to launch a counterattack on the airfield/port and requirements for rapid minefield system to assist in repelling a counterattack.
- * Successful SR missions directly contribute to the survivability of conventional forces.
- * SF SR teams may be directed to assist in the recovery of downed USAF pilots.

5. Air Defense Artillery (ADA):

- * Conduct counter-air operations by locating and directing non-attributable fires on enemy airfields (laser target designation, beacon, or voice).
- * Participates in suppression of enemy air defense (SEAD/JSEAD) operations by locating and reporting enemy ADA sites.

6. Combat Service Support:

- * Provide intelligence on in-country capability to support conventional operations.

- * Determine critical enemy LOCs.
- * Locate critical enemy CSS assets.
- * A SF team, in coordination with the SFOB or FOB staff, determines the quantity and types of equipment and supplies with which it will infiltrate. The following factors influence the decision on accompanying supplies:
 - ** Assigned mission, scope and duration of operations.
(SR teams infiltrate with minimum essential equipment.)
 - ** Resistance force size, capabilities, logistical needs, and responsiveness to US control.
 - ** Hostile capabilities.
 - ** Availability of resources in the operational area.
 - ** Method of infiltration.
 - ** Operational posture (low-visibility or covert).
 - ** Difficulty of repairing or replacing critical items in the operational area.

- * Based on the same considerations, the SFOB or FOB staff establishes supply levels for each class of supply in the JSOA and determines the sequence, method, and timing of delivery. Once deployed, the SF commander may recommend changes to the resupply schedule.
- * The SFOB or FOB schedules three types of resupply missions: automatic, emergency, and on-call. The support center service detachment requisitions and receives the supplies and equipment for these missions from theater or Theater Army operational project stocks or war reserve stocks.

7. Command and Control (C²):

- * Provides CINC, JTF, or ARFOR commander timely critical information, allowing him to enter the enemy commander's decision cycle.
- * SPODAs remain under the command and control of a SOF headquarters (JSOTF, SFOB, FOB, or AOB) and through the establishment of a liaison element (Special Operations Command and Control Element [SOCCE]) to the JTF and/or ARFOR, provides time sensitive information directly to the supported headquarters.

- * Communicates using single/multichannel TACSAT burst transmissions.

Section III. Direct Action - Special Forces

Direct action (DA) operations are a direct application of US military force. These operations are directed and controlled by a SO headquarters and are usually conducted by SOF. This section discusses the nature of and employment considerations for DA operations by Special Forces.

A. Nature of Direct Action Operations.

Direct Action (DA) operations are normally limited in scope and duration, and usually incorporate a planned withdrawal from the immediate objective area. SOF may conduct these missions unilaterally or in support of conventional operations. They are designed to achieve specific, well defined, and often time-sensitive results of strategic , operational, or critical tactical significance. DA operations frequently occur beyond the reach of tactical weapons systems and selective strike capabilities of conventional operations forces.

SF can use conventional or special munitions to neutralize or destroy a designated target system (such as ADA radar systems). The SF capability

to employ special munitions expands delivery options and permits the prepositioning of special munitions in denied areas.

In addition to target attack, SF teams also conduct recovery missions.

B. Employment Considerations.

DA operations are controlled and directed by a SOF chain of command, but may be executed in four modes:

- * Unilaterally with pure SF teams. This allows for maximum US control and compartmentalization. The mission determines the size of the SF team, mode of employment, and tactics and techniques employed. DA operations can range from a two-man SF team performing covert sabotage to a reinforced SF company performing an overt raid or ambush.
- * Unilaterally with a mix of SF, other SOF and conventional US Forces. This method maintains maximum US control and provides for the use of a larger force on target.
- * As a combined operation, with SF-led and directed foreign teams. This allows for positive US control and provides for foreign national support.

- * As a combined operation, with SF-trained and directed foreign teams. This method allows for maximum "deniability".

Some covert actions may require oversight, interagency coordination, and/or control of SF teams by other US government agencies.

Unconventional Warfare (UW) and Direct Action may be interrelated when using foreign personnel or covert sabotage techniques. Three criteria distinguish DA from UW:

- * DA operations are controlled and directed by a SOf chain of command, not by an indigenous resistance organization with SOf advice and assistance.
- * DA operations do not depend on the popular support of the indigenous population.
- * DA operations are short-term, with specific and well-defined objectives.

The SF generic capability to conduct DA operations cuts across all operational environments. The target may be a high-level military headquarters, and industrial plant, and insurgent base camp, or a

terrorist training facility.

The mission determines the size of the SF team performing a covert sabotage mission to a reinforced SF company performing an overt raid or ambush.

C. Command and Control of DA Operations.

In situations short of war, the National Command Authority (NCA) directs the appropriate regional unified commander to plan and execute contingency DA operations. If the NCA desires more positive control, it may direct USCINCSOC to plan and direct the operation. The NCA may also direct USCINCSOC to establish a JSOTF reporting directly to the NCA or the CJCS.

During war, the theater CINC has the authority to conduct DA operations that support the theater campaign plan and the major operations of his conventional force commanders. He exercises this authority by providing the SOC commander a combination of:

- * Mission-type orders.
- * Specific mission taskings.

- * Rules of engagement (ROE).
- * Other mission guidance.

D. Special Operations Search and Rescue (SOSAR) Operations.

When directed, SF performs SOSAR missions using collateral capabilities inherent in the DA recovery mission. The SOC is responsible for SOSAR and conventional combat search and rescue (CSAR) within its assigned JSOAs. Operational requirements may dictate that the SOC commander dedicate a number of SF teams to conduct time-sensitive SOSAR missions. Even if no dedicated SOSAR team exists, the theater Joint Rescue Coordination Center may request SOC assistance in CSAR operations when:

- * A CSAR incident occurs close to a SOF asset.
- * Special circumstances make the use of conventional CSAR forces inappropriate or infeasible.
- * CSAR requirements exceed the capability of the theater CSAR force.

If SF teams can be made available without jeopardizing their primary

mission, the SOC commander will release them for SOSAR mission execution. These SF teams can facilitate the contact, authentication, security, medical treatment, movement, and exfiltration of distressed personnel. They can covertly recover evaders to safeguard the integrity of designated evasion areas.

SF teams can also perform precautionary SOSAR. Their use is particularly appropriate during contingency operations short of war. The sensitivity of particular air missions may justify the deployment of SF teams to provide precautionary SOSAR assistance along the flight routes.

The following are considerations by battlefield operating system (BOS) for the employment of SOF in a direct action during the deployment initial combat phase of a contingency operation.

1. Intelligence:

- * Can provide immediate on-the-ground time sensitive intelligence.
- * If required, Special Forces DA teams can remain in the joint special operations area (JSOA) to conduct follow on SR missions.
- * Capture selected hostile personnel or obtain selected hostile items of material.

- * Make initial contact with an indigenous resistance organization and conduct the assessment of resistance potential.

2. Maneuver:

- * Employed as an economy of force to seize, secure and destroy critical terrain/facilities.
- * Once infiltrated, a SF DA team can conduct a myriad of missions; all of which facilitate follow-on tactical, operational, and strategic operations.
- * Conduct acts of sabotage and subversion.
- * Conduct direct action (DA) missions against critical high value targets (i.e. critical C3 nodes, radars etc).
- * Rescue US or allied PWs, political prisoners, or other selected personnel being detained by a hostile power.
- * Locate, identify, and recover downed aircrews, political or military leaders seeking to come under US control, or other designated personnel not being detained by a hostile power.

- * Locate, identify, and recover nuclear or chemical weapons, downed satellites, classified documents, or other sensitive items of materiel.

3. Fire Support:

- * Conduct terminal guidance operations using laser target designators or beacons in conjunction with high performance aircraft conducting CAS.
- * Conduct target acquisition and direct non-attributable fires (artillery or CAS).
- * If augmented with SOT-As, the SF DA team can conduct EW operations (DF, Jam) to disrupt enemy C3.
- * The SOCCE (liaison to the JTF) coordinates and updates no fire areas around SOF locations.

4. Mobility/Counter mobility/Survivability:

- * Successful direct action missions directly contribute to the survivability of conventional forces (i.e. neutralizing enemy radar installations, providing near real-time intelligence).

- * Can be directed to assist in the recovery of downed USAF pilots.
- * In addition to the DA mission, a SF DA team may be able to gather and provide engineer specific information.

5. Air Defense Artillery:

- * Conduct counter-air operations by locating and directing non-attributable fires on enemy airfields (laser target designation, beacon and voice vectoring); and attributable fires on enemy airfields (mortar, Stinger, and/or 50 caliber sniper fire).
- * Participate in SEAD/JSEAD operations by reporting and neutralizing enemy ADA sites.

6. Combat Service Support:

- * Locate and destroy/neutralize critical enemy CSS assets.
- * Sever/interdict critical LOCs.
- * Provide intelligence on in-country capabilities to support conventional operations.

- * A SF team, in coordination with the SFOB or FOB staff, determines the quantity and types of equipment and supplies with which it will infiltrate. The following factors influence the decision on accompanying supplies:
 - ** Assigned mission, scope, and duration of operations.
 - ** Resistance force size, capabilities, logistical needs, and responsiveness to US control.
 - ** Hostile capabilities.
 - ** Difficulty of repairing or replacing critical items in the operational area.
- * Based on the same considerations, the SFOB or FOB staff establishes supply levels for each class of supply in the JSOA and determines the sequence, method, and timing of delivery. Once deployed, the SF commander may recommend changes to the resupply schedule.
- * The SFOB or FOB schedules three types of resupply missions: automatic, emergency, and on-call. The support center service detachment requisitions and receives the supplies and equipment for these missions from theater or Theater

Army operational project stocks or war reserve stocks.

7. Command and Control:

- * Provides the CINC, JTF or ARFOR commander timely critical information, allowing him to enter the enemy commander's decision cycle.
- * Provides the CINC, JTF or ARFOR commander the direct capability to influence the overall mission outcome prior to the introduction of conventional forces.
- * Uses AM and single/multichannel secure TACSAT for communications.
- * SFCODAs remain under the command and control of a SOF headquarters (JSOTF, SFOB, FOB, or AOB) and through the establishment of a liaison element (Special Operations Command and Control Element [SOCCE]) to the JTF and/or ARFOR, provides time sensitive information directly to the supported headquarters.

Section IV. Airfield Seizure.

A. General.

An airfield seizure is executed with the intent of clearing a designated airstrip to obtain control of it. The purpose can be to allow follow-on forces to airland and conduct transload operations or to continue combat operations from that location. Airfields can be seized and occupied by friendly forces for a definite or indefinite period.

1. Planning Factors. Certain factors must be considered when conducting the estimate for an airfield seizure:

a. Enemy air defenses near the airfield and along aircraft approach and departure routes must be suppressed.

b. The size of the airfield must be long enough for landing and takeoff of the aircraft with its expected cargo. It should be wide enough for landing.⁴ Minimum operating length determines how much of the airfield must be cleared.

c. Configuration of the airfield, including taxiways and parking, determines the maximum-on-ground capacity (MOGC) for aircraft at one time. This, combined with offload/transload time estimates, impacts

directly on scheduling follow-on airflow into the airfield. Surface composition and predicted weather conditions must allow the airfield to accept the required number of sorties without deteriorating the surface below minimum acceptable safety standards.

d. Airfield location must facilitate follow-on operations. If transload operations must occur, the follow-on target must be within the range of the aircraft to be used. If not, then forward area rearm/refuel assets must be available and positioned to support the follow-on operation. If the airfield is seized to allow for indefinite occupation, it must be defensible initially with assault forces against any immediate threat and with planned follow-on forces against larger, coordinated counterattacks.

2. Airborne Task Force Organization. The airborne task force organization varies depending on METT-T. However, airfield seizures have elements designated to clear runways, to assault designated objectives, and to screen areas vulnerable to the commander in addition to normal task organization considerations. Supporting assets and attachments should be considered in organizing the force.

a. Special forces teams can be deployed ahead of the main body to determine enemy dispositions on the airfield and whether airfield runways are cleared or blocked. They should also identify enemy air defense assets near the airfield. Teams maintain radio contact with the

airborne commander en route to the objective (via TACSAT). They may be employed in the selective destruction of enemy facilities by directing air strikes or by employing laser target designators (LTD) to limit collateral damage to the airfield. Special reconnaissance teams can also be employed in the direct action mode to sever wire communications not vulnerable to friendly EW efforts or to provide early warning of approach of enemy forces.

In a contingency, special reconnaissance missions are usually performed by special operation forces. Long-range reconnaissance and surveillance units may be used to conduct SR missions if mission requirements are within the units' trained capabilities (i.e., method of infiltration, HALO, HAHO, UW, Scout swim). The commander must weigh the risk of team compromise and consequent loss of surprise against the value of intelligence obtained.

b. Air Force Combat Control Teams (CCT) are required to provide air space management assistance as well as control of aircraft once on the ground (i.e., parking and taxiing control). CCTs can be inserted ahead of the force as part of a joint airborne advance party, it can jump with the airborne assault, or it can airland with the first assault aircraft.

c. An airfield control group should also be quickly established. This group can be under the control of the battalion executive officer or S3 Air and requires positive control to facilitate

rapid offloading of aircraft. Aircraft execute either combat offloading of pallets or engine-running offloading of vehicles, equipment, and personnel. All vehicles and equipment should prepare to offload immediately upon landing, not waiting for the aircraft to stop. Dunnage and tie-downs remain on the aircraft to save time.

d. TOW, scout, MP vehicles, or other mobile weapons platforms should be front-loaded in the airland assault echelon. These vehicles, relying on surprise and speed for security, must move rapidly to blocking or screening positions. They also provide a mobile antiarmor capability. IEW assets should accompany these mobile weapon platforms to assist in the establishment of a screen.

e. A specialized engineer force may augment the Ranger assault forces to accomplish mobility/countermobility tasks as part of the airfield/port seizure that are beyond the ranger force capability. Specialized engineer forces are allocated to the rangers by the JTF based on the results of SF special recon missions. Below are some examples of mobility/countermobility tasks that require specialized engineer skills.

- * Airfield repair/upgrade to support force buildup.
- * Port repair/upgrade to support force buildup.
- * Assault breaching of extensive complex protective obstacles.

- * Destruction of bridges to isolate the lodgement area from counterattack.
- * Emplacement of protective obstacles (scatterable AP/AT mines).

If engineer units accompany the assault force, they should be given the mission of clearing the runways of obstacles. To assist, dozers and mine detectors (metallic and nonmetallic) can be dropped in the initial assault. Selected personnel "jump start" or "hot wire" vehicles on and around the airfield. These vehicles are used to assist in clearance of the air runway and off-loading of supplies. Special consideration must be given to the type and quantity of obstacles on the runway. This has a significant impact on engineer assets required by the task force, the time for clearance, and the planned time of arrival of airland sorties.

f. Civil affairs and psychological operations load speaker teams provide the commander additional aid in controlling civilians and prisoners of war.

g. Depending on the threat, commanders can determine that certain objectives near the airfield and key terrain surrounding it should be secured at the same time units are clearing the runways. Control towers, communications nodes, and terminal guidance facilities can all be

key terrain. This requirement increases the number of personnel designated to participate in the initial airborne assault. Should this be necessary, commanders can adjust aircraft loads.

h. Special Assets. A number of other assets can be available to assist insertion, command and control, and support.

(1) The Airborne Battlefield Command and Control Center (ABOCC). The ABOCC's mobility and communications capabilities provide valuable command and control.

(2) C-130 Talon. This aircraft's sophisticated navigational equipment permits insertion even under the most adverse weather conditions.

(3) AC-130. The availability of AC-130's allows for continuous fire support from a mobile and accurate airborne platform. If air refueling is available, AC-130 support overhead can remain on station for extended periods.

(4) Unit-level communications. At this level, leaders can augment communications by using handheld radios for special elements and teams, and by setting up special nets for the initial assault.

(5) Reconnaissance, Surveillance, Target Acquisition (RSTA)

devices. In addition to the extra communications equipment already discussed, the force often requires additional RSTA devices to conduct operations during periods of limited visibility and darkness.

(6) Communication with the JTF, inbound aircraft etc. (outside the airhead) is accomplished with single/multichannel secure TACSAT. Inbound aircraft must have hatch mounted antennas or SECOMPs installed.

3. Contingency plans. Several contingencies must be incorporated into the plan and rehearsed. An airland option should be planned if an airborne assault is not needed. The location of aircraft after landing can initially alter how forces are arrayed on the ground. An airland/airborne assault combination can also be incorporated. In this option, the entire assault force is not initially required on the objective. Also, vehicles provided for the mission will require personnel to airland. Aircraft may need to approach and drop from a different direction if the enemy situation or the weather conditions change.

4. Collateral Damage. Minimizing collateral damage can also be a requirement. This consideration impacts on the operation at the lowest level.

5. Refueling Plans. Commanders may need to consider and coordinate refueling operations on the airfield. If so, they must establish a

location, rotation plan for aircraft, and priority for refueling. All must be planned for in close coordination with Army aviation and Air Force planners.

6. Airfield Seizure Control Measures. Several control measures are typically employed in airfield seizures. In addition to normal airhead control measures, the following considerations apply.

a. The designated area of the airfield to be cleared must be designated first along with subsequent priorities for clearance.

b. Aerial photographs can be employed to number buildings for control and reference.

c. An operations schedule with code words for critical events can be employed to control and monitor progress of the operation. Reports can be mandatory or by exception.

d. Another consideration for the commander is assembly location. Due to the rapid nature of most airfield seizures, the commander can choose to have elements assemble on designated objectives. He must ensure that all paratroopers clear the air items at least 10 meters off the runway or taxiway before moving to their assigned objective. No exposed canopy should be near runways, taxiways, or parking areas.

7. Training for Mission. Before mission execution, rehearsals and detailed briefbacks must be conducted at all levels. Command post exercises must be conducted to exercise command and control aspects (especially joint aspects) of the operation. Aircraft should be available for static training with all personnel being transported. Emergency procedures and onload/offload rehearsals should be conducted.

B. Supporting Operations.

Airborne units can deploy from a CONUS base directly to the objective area. Another option is for the airborne unit to deploy first, either to a remote marshaling base or intermediate staging base, before establishing a lodgement into the area of operations. In certain circumstances, the objective can be beyond the range of aircraft operating from a REMAB or ISB in friendly territory. Therefore, a forward staging base (FSB) in hostile territory can be seized to facilitate or project further operations.

1. Remote Marshaling Base (REMAB).

The REMAB is a secure base to which the entire airborne unit, including organic and attached support elements, deploys, and mission planning continues. (Figure 4-1-1.)

a. The REMAB is within the geographical area encompassed by the command authority of the theater or JTF commander. This ensures that the CSS elements, providing support to the airborne unit, are operating within their normal area. It prevents or lessens out-of-sector support requirements. The REMAB should be located in an area similar in terrain and climate to the objective area. Time spent at the REMAB lets the unit begin acclimatization.

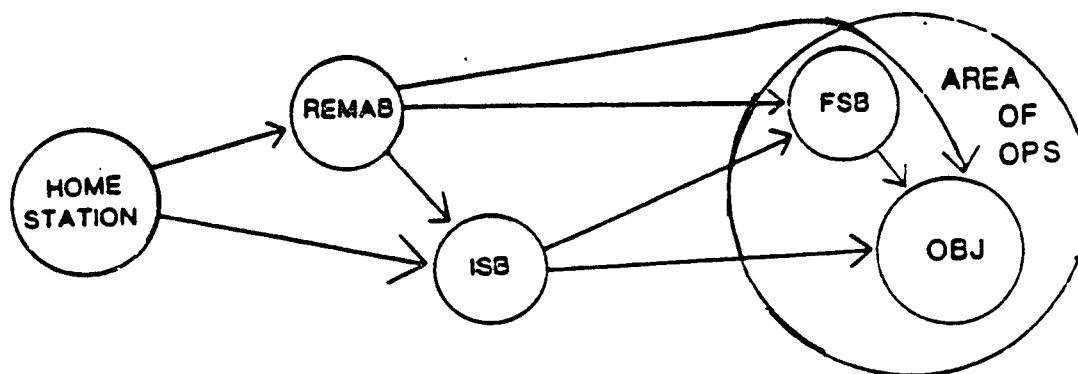


FIGURE 4-1-1. BASE OPTIONS FOR FORCE PROJECTION.

b. Planning and Coordination. The REMAB also provides a secure location for the unit to conduct detailed planning and coordination with the controlling headquarters staff.

c. Command Preparation. In the REMAB, the commander conducts rehearsals, refines and modifies plans, determines priority intelligence requirements (PIR), and coordinates with the proper intelligence sources to receive that information.

d. Additions to Unit. In the REMAB special augmentees to the force are integrated into the unit, if they have not already joined (i.e., specially trained aviation and communications elements).

e. Functions of the REMAB. The REMAB must provide:

- * Access to the controlling headquarters staff.
- * Physical security of billeting, planning, maintenance, and communications areas.
- * Mess, billeting and latrine and shower facilities for the force and its supporting elements.
- * Access to a C-141 or C-130 capable airfield (if possible, all-weather operations capable).
- * Access to secure communications and processed mission intelligence.
- * Access to rehearsal areas where sites can be built and live-fire rehearsals can be conducted.
- * Access to the unit locations of major supporting elements such as naval landing craft or Army aviation

units.

- * An external security force and an active counterintelligence agency.
- * Vehicle transport for troop lift, equipment transfer, and administrative use.
- * Access to maintenance support facilities.
- * Medical support facilities to augment the airborne medical personnel.
- * Covered areas to allow for packing of parachutes and rigging of airdrop loads.

2. Intermediate Staging Base (ISB).

Elements of the airborne force deploy to an ISB to perform final planning, coordination, and task organization. The unit's organization and composition are finalized for movement to the objective area. The ISB is not occupied for long periods. Airborne units can deploy to the ISB from the REMAB or CONUS. Deployment to the ISB is more common when terrain or distance precludes insertion to the objective area directly from the REMAB or CONUS. Contingency missions often involve the use of an ISB.

a. Facilities needed at the ISB include the following:

- * Austere messing arrangements for the combat elements of the airborne force and its attachments.
- * Austere billets or rest areas.
- * Water point.
- * Fuel for aircraft and vehicles.
- * Areas for test firing of weapons.
- * Covered and concealed areas for assembly of the airborne force. Covered areas to allow for packing of parachutes and rigging of airdrop loads.
- * Austere airfield support facilities (if possible, all-weather operations capable).
- * Material handling equipment required for transload.
- * Remote location from civilians or traffic routes.

* Security and counterintelligence elements.

* Secure communications.

b. Location. The ISB should be located in an area similar in terrain and climate to the objective area. Time spent at the ISB also lets the unit begin acclimatization. Units need an acclimatization period if the terrain and climate of the objective area are different from that of their home base. Insufficient acclimatization means that the force could be less efficient, especially when the objective area is hot, dry, or at a great altitude.

3. Forward Staging Base (FSB).

Objectives for airborne or air assault operations can be located beyond the range of aircraft operating from an ISB or REMAB in friendly territory. The requirement then exists for a seizure of a base in hostile territory for the further projection of force or for the recovery of previously deployed forces.

a. Establishing a FSB requires seizure of an airfield or airstrip. The force conducting the follow-on operation can come from a part of the force seizing the FSB or can be a new force introduced after the FSB is seized. In most operations, the FSB is retained only as long

as necessary to support the follow-on mission. A planned withdrawal is executed upon mission completion.

b. Before launching subsequent airborne or air assaults, reorganization may be required. This is especially true if the subsequent assault force comes from the unit that seized the FSB. To minimize this requirement, the follow-on assault force can be the reserve for the initial mission or can be a completely new force, which only refuels or transloads at the FSB. Transloading must be accomplished rapidly. Loads must be prerigged and loaded to facilitate transloading. Control is established by the CCT and ADACG.

c. If the FSB is employed for reception of previously committed forces, planning considerations must include accountability procedures, augmentation for health services support including preventive medicine and medical evacuation support, maintenance requirements, and resupply/refueling operations.

C. Operational Phases.

The planning, preparation, and execution of an airborne operation may be divided into four interrelated phases:

1. Mounting Phase. The period of time from receipt of the warning order or planning directive until the airlift aircraft take off for the

operation. During this period, joint tactical and support planning is accomplished. Troops, equipment, and supplies are assembled, manifested and readied, and briefings are conducted. Marshaling takes place during the last part of the mounting phase when participating personnel, supplies, and equipment are moved to departure areas and prepared for loading.

2. Air Movement phase. This phase begins with the takeoff of loaded aircraft from departure airfields and ends with the delivery of units to their drop zones (DZ) or landing zones (LZ).

3. Assault Phase. This phase begins with the assault landing or parachute assault of troops and equipment, and extends through the seizure of initial objectives and consolidation of an airhead.

4. Subsequent Operations Phase: This phase may consist of offensive, defensive linkup or withdrawal operations in the objective area after the assault phase. The Army forces seek to retain the initiative while operating in enemy territory. Defense may include limited offensive operations to seize additional objectives which would facilitate the defense, favor future operations, or enhance the security of the airspace over and immediately contiguous to the objective area. Requirement for follow-on joint airlift depends on the course of ground tactical operations. Early ground linkup by airborne forces with relieving airland and/or ground forces is frequently a part of an operation.

D. Sequence of Planning for Airborne Operations.

When an airborne operation is a means of entry into an area of operation, Army and Air Force subordinate commanders immediately begin the following studies and estimates. This initial planning is to assemble data for joint planning and decisions.

1. Airborne force initial studies and estimates:

- * Analysis of mission, available intelligence, and requirement for additional intelligence.
- * General ground tactical plan for initial assault, subsequent operations, and linkup or withdrawal, as applicable.
- * Task organization, strength, and requirements for additional units, and departure order priority.
- * Requirements for addition combat support means, including tactical air support and nuclear weapons.
- * Recommended time for beginning the assault.
- * Detailed analysis of possible DZs, LZs, to include enemy opposition, current enemy order of battle, indigenous

civilian attitudes, obstacles, nature of terrain, elevation, desired axes of approach, and an estimate of the engineer construction effort required.

- * Organization and control of logistic support and buildup.
- * Estimate of communications-electronics and logistics support requirements, to include material handling equipment.
- * Movement data for all supplies, personnel, and equipment to be air-transported and divided into forces for airdrop, LAPES, and airland (echelon formation of forces).
- * Type and number of aircraft required for airborne assault.
- * Air defense requirements.
- * Plans for the movement of follow-on forces.
- * POL requirements.
- * Training and rehearsal requirements.
- * Army assault team (AAT) employment, if required.

- * Health services support requirements, patient estimates, coordination for use of nonmedical transportation assets to augment HSS capabilities in the event of a mass casualty situation, and the HSS plan.

- * Combat rescue requirements.

Integration of organic and/or attached Army aviation means and facilities into the overall tactical plan.

2. Airlift force initial studies and estimates.

- * Analysis of mission, available intelligence, and requirement for additional intelligence.
- * Airlift units available for all phases, to include air terminal and aeromedical evacuation operations, and requirements for casualty staging.
- * Available facilities in the mounting area, to include possible departure airfields, staging areas, and logistic and communications support.
- * Meteorological studies, including long-range forecasts.

- * Detailed analysis of possible DZs and LZs to include information of the enemy and civilian population, type of soil, nature of terrain, elevation, clear zones, best axes of approach, and an estimate of the engineer construction effort required. Assault zone (AZ) selection is a user function. The airlift force analyzes those AZs for suitability. The airlift force may recommend alternate AZs.
- * Requirements for navigational aids and communications-electronics.
- * Recommended time for initiating the assault.
- * General air movement plans to and from the objective area.
- * Allowable cabin load (ACL) for each type of aircraft under pertinent flight profiles.
- * Types of aircraft required for approximate number of required sorties in each phase.
- * Tactical air support requirements.
- * Air defense requirements.

- * Additional units of support required.
- * Training and rehearsal requirements.
- * Follow-on aerial resupply requirements.
- * Estimate of maintenance and supply support requirements, to include material handling equipment in the objective area.
- * Current enemy order of battle.
- * POL requirements.
- * Combat rescue requirements.

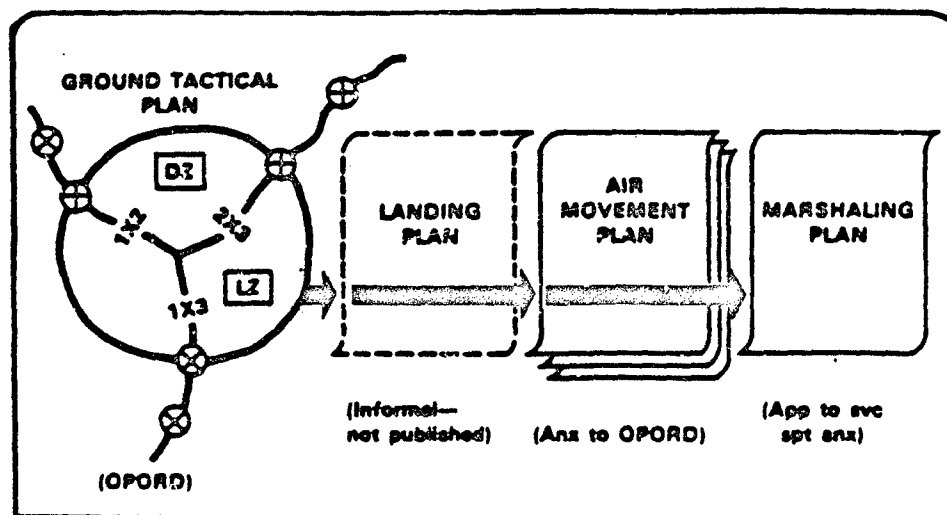


FIGURE 4-1-2. SEQUENCE OF PLANNING FOR AIRBORNE OPERATIONS.

3. Airborne operations planning process.

Planning an airborne operation is accomplished using a reverse planning sequence. It begins with the scheme of maneuver in the objective area (ground tactical plan) and works back to the planning required for marshalling the force (Figure 4-1-2). To ensure a smooth and effective joint airborne operation, the following four plans in the sequence indicated are required:

- * Ground Tactical Plan.
- * Landing Plan.
- * Air Movement Plan.
- * Marshalling plan.

a. Ground Tactical Plan. The ground tactical plan is the basis for all other planning; therefore, it must be prepared as soon as possible. It covers the conduct of operations in the objective area and is the scheme of maneuver that the force will follow once on the ground. It includes a determination of strength and composition of the forces required to accomplish assigned tasks and the development of a supporting logistic plan. Until the ground tactical plan is completed, other planning cannot be finalized.

The ground tactical plan has seven essential elements developed in the following sequences:

- * The airhead line.
- * Assault objectives.
- * The security zone.
- * Reconnaissance and security forces.
- * Boundaries.
- * Assault task organization.
- * Reserves.

(1) The airhead line; an area which must be defended. It must be cleared of any enemy force with enough combat power to interfere with securing this area.

- * The airhead line reflects the control of key terrain.
- * The trace follows the military crest of defensible terrain.

- * The airhead line anchors on obstacles, and the airhead itself takes advantage of existing and natural man-made obstacles.
- * The airhead line must contain sufficient DZ and LZs to ensure interior, rather than exterior lines of communication.
- * Airhead line must allow sufficient space for dispersion to reduce vulnerability to NBC weapons.
- * Airhead line must be large enough to provide for defense in depth, yet it must be small enough to defend. A battalion can defend a 3 - 5 km in diameter airhead. A brigade can occupy 5 - 8 km diameter airhead.

(2) Assault objectives; are key terrain, which when occupied prevents enemy interference with the establishment of the airhead. These must be seized immediately upon parachute assault. These objectives are driven by the mission or by those points on the ground you want to control to prevent high speed enemy entry (foot and mounted) into the airhead to counterattack the air assault. Although, assault objectives are determined concurrently with the airhead line, the assault objective determine the size of the airhead line.

- * Subordinate commanders decide the size, type or disposition of the force to gain/maintain control.
- * Assault objectives are prioritized and for OPSEC purposes are randomly numbered or lettered.
- * Assault objectives are secured before the defense is set up in the airhead line. Then, the airhead is cleared of organized enemy resistance and forces or positioned to defend along the airhead line.

(3) Security zone; forces are landed early in the assault echelon. The reconnaissance and security line is established immediately 4 - 8 km from the airhead line, to afford security to the airborne force during its critical landing and reorganization period. In the early stages of an airborne operation, the security force acts as a screening force. In later stages, when assault missions have been accomplished, the airhead is relatively secure, and more forces are available, it acts as a guard or covering force. Security forces come under brigade control, except during short battalion missions such as strategic raids, when they come under battalion control. the mission of the security force is:

- * To give the airhead early warning.

- * To develop intelligence, including the location, direction, and speed of an enemy attack.
- * To initially deny the enemy direct and indirect fire, and observation of the airhead.
- * To delay the enemy the need for and positioning of additional security forces is determined by the next subordinate commander. The security force includes scouts, AT weapons, engineers, and (sometimes) light armor. When possible, mobile forces are selected to facilitate rapid initial movement to positions and to facilitate withdrawal and adjustment. An aggressive reconnaissance and security effort at lower echelons augments the security force. The following considerations apply to the selection of positions for the screening force:
 - ** Located within radio communications and fire support range. However, this range can be extended, if necessary, with retransmission stations; airborne communications relay; split section indirect fire operations; and attachment of vehicles, mortars, or other assets to the security force.

- ** Offer long-range fields of fire and observation.
- ** Present enemy long-range fields of fire and observation into the airhead.
- ** Take advantage of natural and manmade obstacles.
- ** Orient on enemy high speed avenues of approach (foot and mounted).
- ** Allows for a route of withdrawal (recon during the initial stages of an airborne assault mission, and screening forces do not conduct decision combat operations).
- ** Be in range of indirect fire weapons:artillery and mortars
- ** Be within radio communications range (4 - 8 km out from the airhead line.) This range can be extended with retransmission stations; airborne communications relay; split section indirect fire operations; and attachment of vehicles, mortars or other assets to the security force.

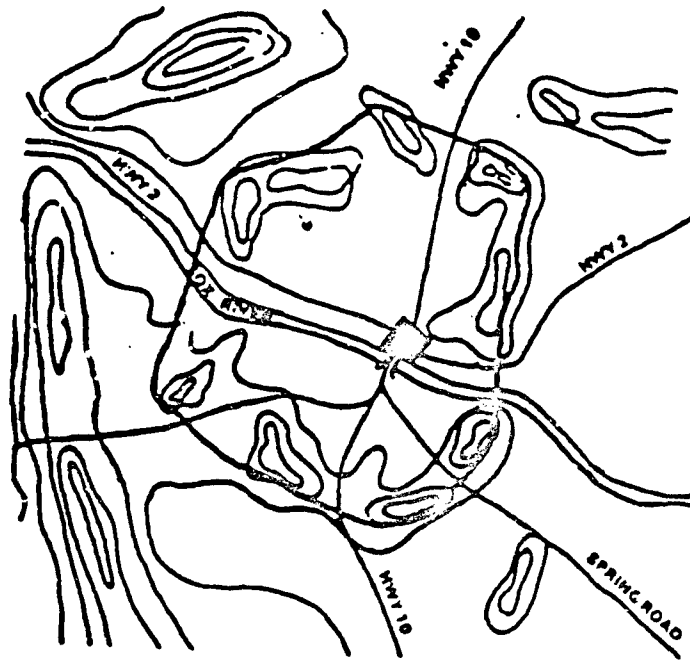


FIGURE 4-1-3. AIRHEAD LINE.

(4) Reconnaissance and security forces; designated forces under control of the airborne force commander perform reconnaissance and security missions beyond the security zone established by ground forces, with emphasis on likely enemy avenues of approach. The mission of these forces is to gain and maintain contact with enemy units reacting to the airborne assault. This force is mobile and is not used to defend a particular part of the airhead. It can include special forces special reconnaissance Army aviation or air cavalry, or light armor; it can be

supported with fire from Air Force assets, naval gunfire, or Army missile systems. The following considerations govern the employment of this force:

- * The forces orient on enemy high-speed avenues of approach to develop intelligence, including the location, direction, and speed of the enemy's advance.
- * Leaders of these forces consider known enemy locations, the number of high-speed approaches, and communications relay capabilities and orient on enemy units.
- * Generally employed 16 to 24 km beyond the airhead, these forces protect the main force from surprise attack. The airborne force commander can extend their range if communications permit. Aviation assets can to out to 50 km or more, though the commander must consider loiter time so the forces can provide continuous coverage. Special forces, special reconnaissance teams, and LRSU teams perform surveillance of enemy garrisons out to 200 km and of major routes from the team to the airhead. The airborne force commander can employ surveillance teams for this purpose, as a motorized unit can cover 200 km in five to seven hours, and an air assault force can

arrive in less.

- * Reconnaissance forces must be mobile and task organized for the mission from cavalry, armor, scout, IRSU, and antiarmor units.

(5) Boundaries; commanders use boundaries to assign sectors of responsibility to major subordinate combat elements. (Figure 4-1-4.) A subordinate commander assigned a sector of responsibility clears the area of enemy forces. In selecting and designating assault boundaries for airborne operations, several points are considered:

- * At brigade level there are brigade sectors, but no brigade rear. At battalion level, there are company sectors, but no battalion rear.
- * Each unit should be able to clear its assigned sector, so commanders must consider boundaries concurrently with task organization. To name boundaries, commanders subdivide the area, not necessarily into equal sectors, but rather into sectors with fairly equal tasks. This requires the commanders to carefully analyze the enemy, the tasks to be accomplished, and the terrain within the objective area.

- * Commanders should avoid splitting (between two units) the responsibility for the defense of an avenue of approach or key terrain.
- * Commanders include, if possible, adequate terrain in the sector, including key terrain features that control it.
- * Commanders should avoid designating boundaries in such a manner that a major terrain obstacle divides a maneuvering forces.
- * The boundaries should provide adequate room to permit the commander to maneuver forces on both sides of the assault objectives.
- * The commanders must choose boundaries that are recognizable both on the map and on the ground. Although, roads fit this description, commanders should avoid using them, especially when they are near the airhead line. Instead, they can use rivers, streams, railroad tracks, the edge of a town, woods, the edge of a swamp, and so on.
- * Ideally, each battalion sector should include at least

one DZ and LZ to enable the battalion and its attachments to land within the assigned sector during the assault, and to later facilitate resupply and evacuation of EPWs and casualties. Having an LZ and DZ reduces the problem of coordination with adjacent units. This does not mean that commanders must locate all battalion DZs in the battalion sector. Regardless of boundaries, units should drop on the DZs closest to their assault objectives.

- * Commanders should establish boundaries that will serve during the assault as well as during later operations.
- * Commanders should choose boundaries that do not require a unit to defend in more than one direction at one time. Also, they should not expect a unit to secure objectives within the airhead at the same time they establish its defense.
- * Boundaries should extend beyond the trace of the security force as far as necessary to coordinate fires. This also allows subordinate units to operate forward of the airhead with minimal coordination.
- * Commanders should plan coordinating points at the

intersection of the airhead line and security force ground trace boundaries.

(6) Assault Task Organization; Once commanders have determined the principle features of the ground assault plan (scheme of maneuver and fire support), they organize units to execute their assigned missions, and they determine boundaries at the same time.

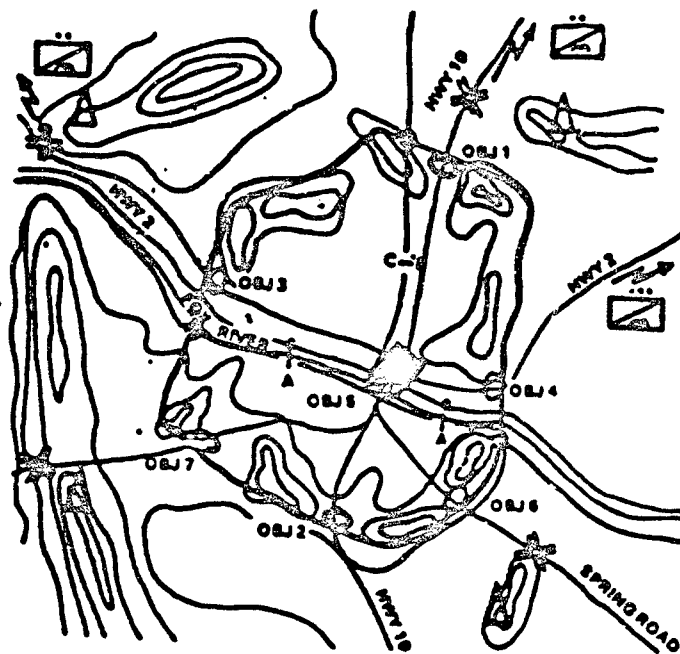


FIGURE 4-1-4. BOUNDARIES.

For unity of effort, or to increase readiness for combat, part or all of the lower units of any command can be formed into

one or more temporary tactical groupings (teams or task forces), each under a designated commander. Because of the special problems that result from dispersed landings and lack of initial command and control in an airborne assault, it is desirable to form temporary tactical groupings or teams within the unit to execute an assigned mission.

(a) No standard team organization can be prescribed in advance to meet all conditions. Infantry units usually form the nucleus for the tactical groupings, and infantry unit commanders lead the teams. These teams are tailored for initial assault by the attachment of required combat, CS, and CSS units. These units should provide support for up to 72 hours of sustained combat. They are attached as soon as possible in the marshalling area. Many of them detach as soon as centralized control can be regained and the parent unit headquarters can be established on the ground. Other units such as higher echelon assault CFs can be attached for the movement only. Attachments for airborne infantry brigades usually include:

- * A field artillery battalion.
- * A combat engineer company.
- * A MP platoon.
- * A light armor platoon.

- * An IEW support element.
- * A forward area support team (FAST - DISCOM).
- * An air defense artillery battery.
- * Other assets as determined necessary by the division commander.

For control, an airborne infantry/ranger battalion can be reinforced for the airborne assault and organized into a task force. This is true if a battalion is to land in widely separated DZs or LZs. A battalion task force generally consists of a reinforced infantry battalion. Reinforcements can include more infantry, armor, antitank, engineer, dedicated artillery units, and any other units or detachments needed in the initial attack. As in the case of the brigade, attachments to infantry battalions are made early in the planning phase. They can be withdrawn as soon as the ground situation stabilizes and the brigade commander controls his units.

Rifle companies and platoons can be reinforced for the airborne assault according to the usual considerations governing a ground attack. Attachments are made before the move to, or on arrival in, the marshalling area.

(b) Echelonment for Assault Landing. After the task organization of troops for the assault landing is announced, units organize into assault, follow-up, and rear echelons.

- * The assault echelon consists of the parachute and assault aircraft elements that are committed to seize the airhead. Ranger or airborne infantry units can be committed to an airborne assault without leaving a follow-up echelon that must be brought forward by means other than air. It is desirable and necessary to leave certain personnel and equipment behind.
- * The follow-on echelon consists of personnel and equipment not required initially in the assault echelon. It joins the assault echelon as soon as possible after the airhead is established, or after contact is made between the assault echelon and the troops making the main ground effort. The existence of any one of the following conditions requires an airborne unit to have a follow-on echelon:
 - ** Shortage of aircraft.

** Aircraft of a type inadequate to land heavy items of equipment.

** An enemy situation, terrain, or weather that makes it impossible to land certain troops or equipment in the assault echelon.

* The rear echelon includes the part of an airborne unit that is not considered essential for initial combat operations. It also includes people left at its rear base to perform administrative functions that cannot be done efficiently in the combat area. The rear echelon can include personnel clerks, personnel to administer logistics, personnel physically disqualified for airborne assault landings, and other personnel to administer the rear echelon. The rear echelon is small. Higher headquarters usually prescribes the composition of the rear echelon for all units. The rear echelon can remain at the rear base when the unit is to be relieved at an early date; or it can rejoin the unit when the brigade remains committed to sustained combat for a prolonged or indefinite period.

(7) Reserves; the brigade or battalion reserve enters the airhead as part of the assault echelon. It provides depth to the airhead, blocking penetrations, reinforcing committed units, and counterattacking. It consists of not more than a company at brigade level or a platoon at battalion level. Commanders should organize, task, and position the reserve, ensuring that:

- * The site of the reserve is compatible with likely missions.
- * The reserve comes from the unit with the fewest or least priority tasks.
- * The reserve is not assigned assault objectives or a sector of the airhead to defend.
- * To speed commitment, the reserve is near areas of likely employment, for example, near the main enemy avenues of approach.
- * The reserve is mobile.
- * The reserve is located in an assembly area (both initial and subsequent) or battle position, so that it does not interfere with units assigned assault objectives.

- * To provide ease of movement to reinforce or block, the reserve is near a line of communication in a covered or concealed location.
- * The reserve is located, if possible, within the sector of one unit.
- * The reserve's location allows for dispersion of the force.
- * The reserve commander has prepared and rehearsed commitment contingencies IAW guidance received from the commander designating the reserve.

b. Landing Plan. The landing plan is the airborne force commander's plan that links air movement to the ground tactical plan. The landing plan provides the basis for the development of the air movement plan and is necessary for airborne operations. It is a tabulation of the sequence (starting with time over target [TOT]), method of delivery, and the destination of troops and materiel into the objective area. The landing plan is a process which planners at each ground force echelon must go through prior to the joint development of the air movement plan. Before the landing plan is developed, it is essential to have the following information available:

- * Ground commander's priorities.
- * Subordinate unit ground tactical plan.
- * Subordinate unit landing plan.
- * Airlift tactics

The landing plan contains five elements of information: the sequence of delivery; the method of delivery; the time of delivery; the place of delivery of troops, equipment, and supplies into the objective area; and the assembly plan. The nature and location of DZs and LZs are basic considerations in preparing the landing plan. DZs and LZs must be large enough to accommodate initial disposition of assault forces and to assist in the seizure of assault objectives. Assault units should be landed on or near assigned objectives. Use of battalion-size and larger DZs and LZs permits rapid assembly and reorganization. However, the use of smaller company-size DZs and LZs may be required to avoid massing forces which would present a lucrative target. The following characteristics are desirable:

- * Near to or, if the enemy situation permits, directly on top of assault objectives.
- * Free of anti-airborne, nuclear, biological, chemical (NBC)

contamination and natural obstacles.

- * Avoids enemy air defenses and strong ground forces.
- * Easily identified from the air under expected conditions of visibility.
- * Permits straight approach from at least 10-15 miles out to allow aircraft sufficient time to line up on the DZ/LZ.
- * Near dominating terrain, good road networks, and terrain favorable for defense against armored attack.
- * Sufficient size for the force to be delivered in a single pass.
- * Adequate cover and concealment for troops to assemble and reorganize near the landing areas.
- * Minimum construction required for any LZ.
- * Outside the range of enemy suppressive fires.

c. Air Movement Plan. The air movement plan covers the phase of the operation from the time units have loaded aircraft until they

arrive at the objective. It indicates the time that units must begin loading aircraft at airfields. The air movement plan lists takeoff time, flight routes, the order of flight and arrival times at DZs or LZs, and facilitates timely delivery of units to the objective area in accordance with the landing plan. Air movement plans are coordinated with elements of other services which are or might become involved in or affected by the operation. The Commander, Air Landing Force (COMALF) and the airborne force commander concerned coordinate preparation of the air movement plan, which includes the flight route diagrams, air movement tables, and aircraft loading plans.

The Joint Force Commander (JFC) ensures that personnel, communications equipment, and navigational aids required for assault, follow-on, resupply and withdrawal operations are established on the LZ or DZ.

The Commander Air Forces (COMAFFOR) is responsible for airspace control during air movement. The distances involved and the duration of an airborne operation may require establishment of special air traffic control facilities for extending detailed control into the objective area. The COMAFFOR is responsible for providing for air defense of the airlift force within the JTF area of operations.

The Military Airlift Command (MAC) mission commander provides for the precise and timely delivery of the airborne force and equipment to

selected LZs or DZs. The MAC mission commander or JFC may establish an airborne CP in a suitable equipped airlift aircraft for en route and terminal control of forces. En route to the objective area, communications between the land component commander and commanders in airlift aircraft may be transmitted over the Army secure en route communications package (SECOMP). Using SECOMP, embarked commanders are advised of changes in the ground tactical situation or changes in the air movement plan caused by aborts or enemy action. Communications installed on either the MC-130, the ABCOC, or the joint airborne communications center (JACC)/CP may be used to relay signals or information from the objective area. If an aircraft emergency should occur, use of dedicated Army SECOMPs will cease at the discretion of the aircraft commander.

The Air Force area of authority around a DZ or LZ under Air Force control will include sufficient terrain and airspace to permit safe and efficient air traffic control. Within the airspace control zone (normally three to five miles in diameter) all aircraft flights must be coordinated with the Air Force OCT or other air Force airspace control agency. The MAC mission commander coordinates with the airborne force commander to select the TOT and the approaches to the LZs or DZs.

The direction of approach over a DZ is a basic consideration in planning the positioning of heavy drop loads, expeditious assembly of personnel after landing, and launching the ground operation. Complete coordination is necessary before the direction of approach is established

or changed. For an airborne operation, alternate LZs or DZs and corresponding approaches should be established.

The air movement table forms the principle part of the air movement plan and contains the following essential elements:

- * Departure airfield for each serial.
- * Number of aircraft for each serial.
- * Chalk numbers for each aircraft, each serial, and each departure airfield.
- * Unit identity of the airlift element.
- * Name/rank of each USAF serial commander.
- * Number and type aircraft.
- * Employment method for each aircraft (airland/personnel parachute/ heavy drop (HD)/ container delivery system (CDS)/ extraction).
- * Army unit identity.

- * Name/ rank of each airborne force commander.
- * Load times.
- * Station times.
- * Takeoff times.
- * Designated primary and alternate LZs or DZs for each serial.
- * P-hour for the lead aircraft of each serial (given in real time).
- * Remarks (includes special instructions, key equipment, and location of key members of the chain of command).

Countermeasures that may be employed to reduce the enemy's interference with air movement are:

- * Dispersion of aircraft.
- * Flying at high and low altitudes.
- * Employment of electronic countermeasures.

- * Diversionary measures.
- * Operations at night and during periods of reduced visibility.

Deployment of airborne/ airlanding forces into an area located between the origin of the movement and the objective may precede the actual execution of an airborne operation. The stopover point between the origin of the movement and the objective area is named the intermediate staging area. The airborne force, or parts of it, may pass through the intermediate staging area for regrouping of aircraft, redistribution of troops, equipment inspection, training, and rest. The airborne force may arrive at the intermediate staging area/ base by any one or a combination of the following transportation modes:

- * Tactically loaded in airlift aircraft.
- * Administratively loaded in airlift aircraft.
- * Administratively moved by motor, rail, or water transport.

The airborne force may not proceed beyond the intermediate staging area. However, the task force will usually remain in the intermediate staging area for only a short time. Planning considerations

may require that rigged loads remain on mission aircraft. If the situation demands that the task force be enlarged or remain for an extended period, the intermediate staging area may become an intermediate staging base.

The support element in the intermediate staging area/ base gives minimum essential support to assault and airlift forces, and provides the structure for expansion to accommodate larger forces. The units making up the intermediate staging area/ base command are predesignated from joint sources and should be trained for their mission. The intermediate staging area/base organization must be able to assemble rapidly for air movement to the selected staging area/ base in advance of the assault elements that it will support.

To control the intermediate staging of an airborne force, the component commanders establish a joint coordinating element at the intermediate staging area. The element is composed of an Air Force ALCE and an Army DAOC/AACG. a typical intermediate staging area/base command is an austere organization, structured on the premise that the supported force will perform much of its own processing.

When practical, organic support elements of the airborne force precede the combat elements into the intermediate staging area/base. Support elements use the additional time to complete plans with intermediate staging area/base personnel for organizing and establishing

support activities. The airborne force is responsible for developing its bivouac area to include provisions for working facilities, latrines, and trash and garbage pits. The intermediate staging area/base commander provides support activities to include:

- | | |
|----------------------------|----------------------------|
| * Administrative services. | * Health Services Support. |
| * Terminal transfer. | * Maintenance. |
| * Transportation. | * Movement control. |
| * Food service. | * Communications. |
| * Rigging. | * Water. |

The mission of the intermediate staging area/ base command is completed when the airborne force has departed. Personnel of the intermediate staging area/ base may then act as an element of the forward supply base responsible for continuing logistic support of the airborne elements in the objective area.

Alternate ground tactical and air movement plans should be provided to compensate for:

- * Extreme changes in the situation.

- * Faulty intelligence.
- * Adverse weather in the departure area, en route, or in the objective area.
- * Failure of the joint force to accomplish any part of its mission.
- * Employment of NBC weapons by enemy forces, or nuclear or chemical weapons by friendly forces.
- * Failure of communications.

Normally, these alternate plans are prepared for each serial scheduled for a particular DZ or LZ. Special provisions are made to send out the order to execute an alternate plan and to provide necessary logistic support.

d. Marshalling plan. The marshalling plan provides the administrative and logistical procedures by which units of the airborne force complete final preparations for combat, move to the departure airfields, and load aircraft.

D. The following are considerations by battlefield operating system (BOS)

for the preparation and conduct of an airborne assault.

1. Intelligence.

a. Units conducting airborne operations can face challenges presented by forced entry into an enemy rear area. The unit must consider type, number, and location of enemy air defense weapons, observation systems (visual, radar, satellite, etc., and warning systems. They must consider the locations and capabilities of enemy forces near the objective. Close joint cooperation in air reconnaissance is required. Aerial and satellite photographs and stereoscopic pictures can help offset the lack of terrain reconnaissance prior to an airborne assault.

b. Airborne operations, more than any others, depend on weather. The more territory an airborne operation covers, the greater the need for a long-range weather forecast system. Much information can be obtained from weather satellites. Other intelligence requirements, such as surface wind, can only be obtained through HUMINT resources. Employment of these resources must be carefully considered against the possible impact of early discovery by the enemy and the resulting loss of surprise.

c. Terrain analysis is equally important to the airborne force as it is to the heavy or light ground forces. The selection of drop zones, assault objectives, and subsequent areas of operations is dependent

on a thorough analysis of the area of operations in order to capitalize on strengths and minimize limitations of the airborne force.

2. Maneuver.

a. Forces must fit the task. The ranger or airborne battalion can be part of an airborne assault by a larger unit or can constitute the initial assault force itself, preparing the way for a follow-on force deployment. Ranger or airborne battalions rarely conduct an airborne assault as an independent operation just to establish an airhead. The battalion is not large enough to adequately defend an airhead which includes the approach and departure routes for airdrop sorties needed to sustain the airborne force. However, airborne raids with withdrawal by air or other means are well within the capabilities of a properly trained battalion task force.

b. The airborne force must maintain the element of surprise.

- * The commander must carefully select the time, place, and manner of delivery for the attack.
- * Everyone concerned must maintain strict operations security.
- * The force can maintain deception by masking operations as training deployment or emergency deployment readiness

exercises (EDRE), and by making EDREs fit as closely as possible the pattern for actual operations.

- * Enemy detection devices, including radar and intelligence satellites, can pick up air formations at great distances and assure prompt countermeasures. The airborne forces must neutralize the effectiveness of these devices through destruction, jamming, or operator distraction.
- * Airborne forces can fly at very low altitudes, using natural barriers in the terrain and cloud cover to neutralize the effectiveness of these devices.
- * Deception flights can divert the attention of operators of detection devices.
- * To confuse the operators, airborne forces can change course during the approach.
- * Night operations increase the possibility of surprise although they make assembly of airborne force elements and seizure of assault objectives more difficult.

c. The most vulnerable time of any airborne assault is between the jump and the seizure of assault objectives. Rapid seizure of

objectives is critical to success; speed and surprise are often more critical than numbers. Often, decisive action with a small force can succeed early where the fully assembled force cannot succeed later.

d. Planning for a long-duration, large scale airborne operation should include preparation for the movement by air of large ground units, to permit prompt reinforcement of airborne troops after their initial landing. To capture a suitable airhead for airland elements, the unit conducting the airborne assault must be able to capture airfields or terrain suitable for landing air transports. They must also be able to prevent enemy direct fire and observed indirect fire on the landing zone. Suppression of enemy air defense assets along the aircraft approach and departure routes can be critical to success. Airlanded elements can be committed only when these conditions are met.

3. Fire Support.

a. The Air Force and naval gunfire support are the primary sources of fire support for airborne assaults. The Air Force provides reconnaissance, air superiority of flight routes, close air support, and tactical transport.

b. Leaders must plan to neutralize all anti-aircraft installations along the route selected for the flight. This can be a joint responsibility, depending on the availability and capability of

various fire support assets. For example, when airborne operations are conducted on or near a beach, naval gunfire can provide much of the fire support, including participation in J-SEAD operations.

c. Airborne units continue to require sufficient air support to replace the artillery which would normally be supporting them.

d. Airborne forces must maintain air superiority to succeed in their mission. It can be temporary and local, but these characteristics increase risk and demands on Air Force assets. The more tentative or temporary the air superiority, the shorter the time-distance factors and duration of the operation. To establish and maintain air superiority, the Air force can, among other things, neutralize enemy airfields and command and control facilities.

e. The Air Force must isolate the target from support by attacking the enemy's ground and air forces, beginning late enough that the enemy does not know the objective until too late to bring in additional troops or repair damage. Immediately before an operation, the Air Force should incapacitate the enemy's fighter airfields and immobilize enemy radar, communications facilities, and enemy reserves near the projected airhead. An air attack on the enemy reserves rushing toward the airhead can give the airborne unit extra time to seize the assault objectives, reorganize, and prepare for defense of the airhead.

4. Mobility, Countermobility, and Survivability.

When the initial airborne assault is to be followed by large numbers of airland sorties, engineer troops and runway repair and maintenance packages must be included in the task organization. Sufficient redundancy is required in the package to ensure mission success despite the loss of some critical equipment or key personnel.

5. Air Defense.

As previously stated, airborne forces must attain air superiority in the objective areas and along the route. Part of this superiority can be achieved through air attack. Also, an air defense umbrella must be established rapidly. Usually, the enemy can respond fastest by air, so rapid establishment of air defense is critical. To prevent fratricide, airborne forces must closely coordinate and train thoroughly with the Air Force.

6. Combat Service Support.

Airdrop operations resupply airborne forces. The staff makes extensive plans for resupply of airborne forces. As much airlift is needed to resupply a unit for a single day of intense combat as is necessary to transport the unit to the drop zone initially. Due to this heavy commitment of airlift assets, the airborne force should effect

Linkup with ground forces within two or three days after landing.

7. Command and Control.

Unity of command takes precedence over all other considerations. The highest ranking officer in the landing areas commands the airhead and is himself subordinate to the commander of the airborne operation. Both air and ground units must be under a single overall commander. The shortest possible chain of command is critical to success.

a. When airborne operations involve a ground linkup, the airborne unit goes under the command of the attacking ground force as soon as an effective linkup is made.

b. Airborne operations require command posts both on the ground and in the air. The airborne force headquarters is divided into a mobile forward echelon and a stationary rear echelon which can operate from a remote marshalling base, an intermediate staging base, or a forward operating base in enemy territory.

c. Commanders of airborne forces should land with the very first units so that clear directions for the battle can be given from the outset.

d. A highly qualified and trained force is required to

successfully plan and execute airborne operations. A mutual understanding of the peculiarities, capabilities, and limitations of both air and ground assets by all leaders involved is critical. Lack of training and inadequate skill in air-ground cooperation can have disastrous effects.

e. Leaders must train systematically, with emphasis on well-functioning radio communications from the ground to the air and coordination between units on the ground and in the air.

f. An airborne operation is as rapid in its execution as it is time-consuming in its preparation. Commanders must develop contingency plans for possible follow-on operations. These OPLANs can be carefully modified on the basis of current information obtained in the course of actual hostilities. This precaution can significantly reduce the time required for preparation in each individual case.

g. Joint rehearsals are a prerequisite for success.

E. Conduct of The Initial Assault.

The initial assault stresses the coordinated action of small units to seize initial objectives before the surprise advantage has worn off. As assault objectives are seized, the efforts of the assault force are directed toward consolidation of the airhead.

1. Tactical surprise, coupled with detailed planning, should enable units to seize their assault objectives and establish the airhead before the enemy has time to react in force. Missions of units are changed as required by enemy defense of initial objectives. The enemy can be expected to launch uncoordinated attacks quickly along major avenues of approach using local forces. The degree of coordination and strength of these attacks increase progressively, and the airborne force must develop correspondingly greater strength in its defensive positions. Preparation of early defense against armored attack is a major consideration.

2. Units assigned to perform reconnaissance and security missions land in early serials:

- * To establish roadblocks.
- * To locate enemy forces.
- * To disrupt enemy communication facilities.
- * To provide the commander with early warning, security, and information.

Since ground reconnaissance by unit commanders is seldom possible before the airborne operation, it must begin immediately once the unit lands. The flow of information must be continuous. Essential elements of

information do not vary from those employed by other ground units. however, the unit's method of arrival in the combat area raises the requirement for immediate and thorough reconnaissance and for the transmission of information to higher headquarters.

3. If the initial objectives are heavily defended, the bulk of the force is assigned the task of seizing these objectives. When initial objectives are lightly defended, the bulk of the force can be employed in clearing assigned sectors and preparing defensive positions in depth. Extensive patrolling is initiated early between adjacent defensive positions within the airhead and the reconnaissance and security line. Army aircraft support this patrolling effort. Contact with special forces and/or friendly guerrilla forces in the area is established as soon as possible.

4. Personnel are briefed on unit plans, adjacent and higher units' plans, and alternate plans. This enables units or personnel landing in unplanned areas to direct their efforts to accomplishing the mission. Misdelayed units or personnel establish contact with their respective headquarters as soon as practicable.

5. As soon as communications and the tactical situation permit, commanders regain centralized control. The immediate establishment of communications channels as parachute, assault aircraft, and airplane elements arrive in the combat area, is essential for effective control of

ground operations. The immediate establishment of the following are necessary for effective command and control:

- * Command and fire control channels within the airborne forces.
- * Communications with supporting air and naval forces.
- * Communications with airlift forces concerned with buildup, air supply, and evacuation.
- * Communications with bases in friendly territory.
- * Communications between widely separated airborne or ground forces (for example, linkup forces) with a common or coordinated mission.

Sufficient communications personnel and equipment must be moved into the airhead in advance of the command post they are to serve, to ensure the timely installation of vital communications.

6. The commander influences the action by shifting or allocating fire support means, moving forces, modifying missions, changing objectives and boundaries, employing reserves and, especially during the initial assault, by moving to a place from which to best exercise personal

influence.

7. When initial objectives have been secured, subordinate units can seize additional objectives that facilitate the establishment of a coordinated brigade/ battalion defense or the conduct of future operations. Defensive positions are organized, communications supplemented, reserves reconstituted, and other measures taken to prepare the force to repel enemy counterattacks, to minimize effects of attack by nuclear weapons, or to resume the offensive.

8. Reserves prepare and occupy blocking positions, pending commitment. Typical missions for reserves committed during the initial assault include taking over the missions of misdelivered units, dealing with unexpected opposition in seizing assault objectives, and securing the initial airhead.

The following example illustrates how an airborne rifle or ranger battalion might conduct an airborne assault (Figure 4-1-5). The mission is to seize and secure an airfield for follow-on airland forces. The enemy situation identifies motorized threats from both the east and west, with the most dangerous in the east. In the west, there is an unidentified enemy motorized company. Its exact location is unknown. A motorized regiment with a company of tanks is located about 250 kilometers east along the highway or about

10 hours reinforcing time. One battalion of that regiment is located 50 kilometers east of the airfield along the same road, about two hours reinforcing time from the airhead.

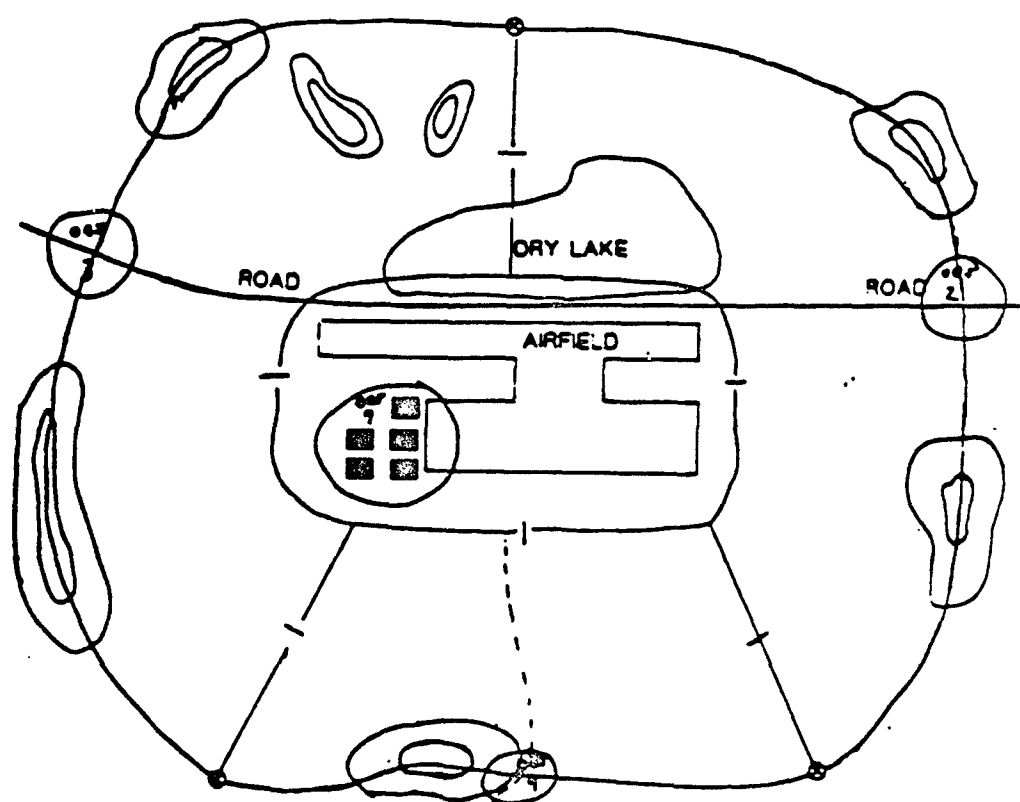


FIGURE 4-1-5. AIRHEAD LINE.

The airhead line traces key terrain of the surrounding area. this tells the battalion commander he is to control this area. Assault objectives are looked at concurrently

with the airhead line. The assault objectives are drawn to denote the specific area to be controlled ...not the area to be occupied. The main assault objective is the airfield control tower and surrounding buildings. Other assault objective are located along the airhead line to control high speed avenues of approach (mounted, dismounted). Again the airhead line tells the commander what he is to defend. The assault objectives tells him what he is to control. How the subordinate commander controls this area is up to him. Boundaries have been designated so as not to split an avenue of approach.

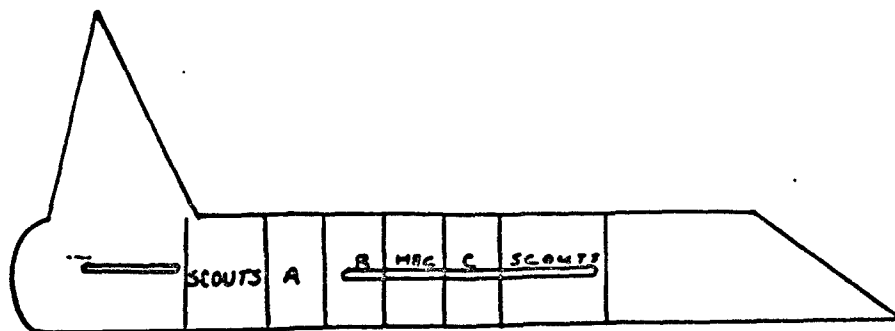


FIGURE 4-1-6. CROSSLOAD PLAN FOR AIRCRAFT.

Each aircraft is crossloaded to facilitate the ground tactical plan (Figure 4-1-7). The plan is for A company to seize assault objective three in the west; B company to initially seize assault objective seven; then assault objective four in the south; C company to seize assault objective two in the east; and the battalion scouts or ranger regimental reconnaissance platoon to establish a security zone out from the airhead line. B company is to leave a platoon on objective seven to become the battalion reserve.

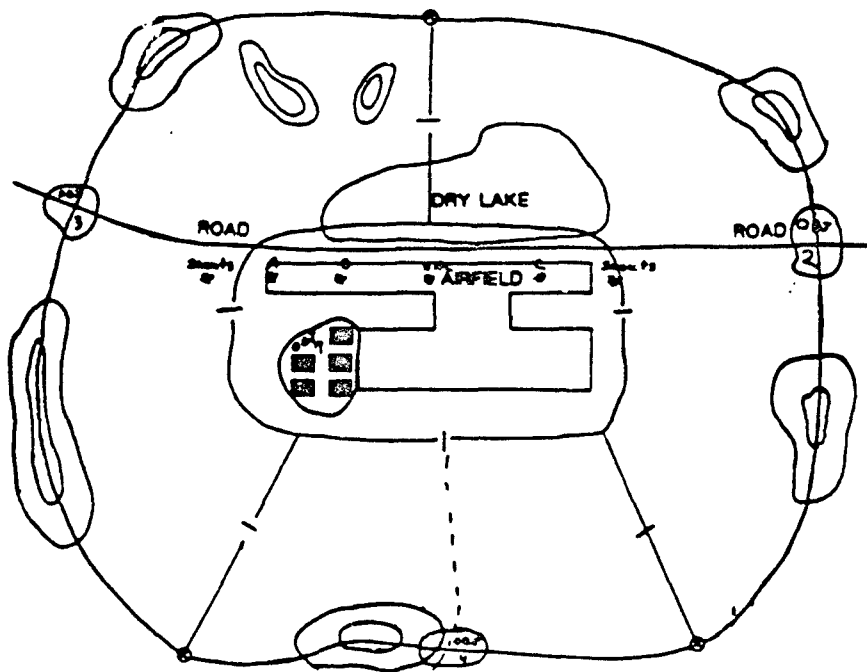


FIGURE 4-1-7. AIRBORNE LANDING PLAN.

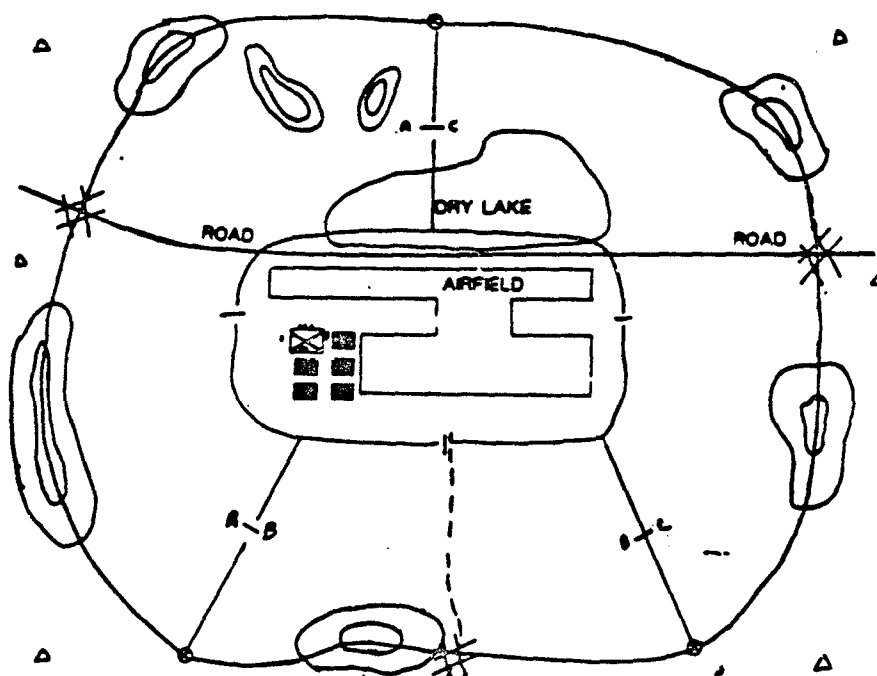


FIGURE 4-1-8. AIRFIELD SEIZURE.

The aircraft approach for this operation is from west to east. Parachute hour is 0200, local time. The drop zone will be the airfield ... using the main runway as a target.

The airborne assault is conducted at 0200 hours with a ranger recon element/battalion scout element landing in the west, and in order to the east, A company, B company, HHC, C company, and a ranger recon element/battalion scout element. Units immediately begin assembling in accordance with unit SOP. (Figure 4-1-8).

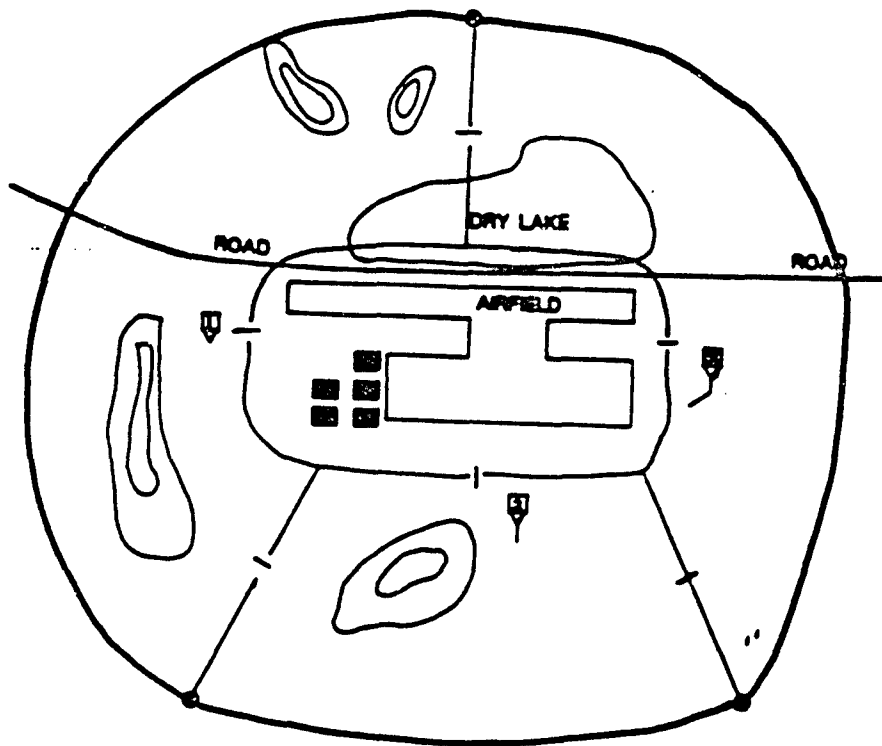


FIGURE 4-1-9. AIRLANDING.

Upon the assembly of a viable force, the unit or an element thereof moves to and seizes its assault objective. 100 percent unit assembly should occur in 30 - 40 minutes. Assault objective should be seized within 60 minutes of parachute hour. The ranger recon element/battalion scouts move to designated dominant terrain to establish the security zone. The ranger or airborne infantry battalion continues to communicate with special forces special reconnaissance teams and Air Force reconnaissance aircraft providing recon and surveillance in front of the security zone of the airhead line. Simultaneously, engineers clear and prepare the runway surface for follow-on airland. CCTs

prepare to receive and control follow-on airland (Figure
4-1-9).

prepare to receive and control follow-on airland (Figure
4-1-9).

soon as its command and control and logistics base is established. Because the force buildup and combat action phase of the contingency operation is the most critical point for the division, staff planners must ensure that the lead brigade is fully resourced for the mission.

During this phase, command and control of the lodgement area will initially rest with the maneuver commander or a designated representative. As the main body of the division arrives, command and control of the lodgement area passes to the DISCOM commander who also controls the air-flow operations from home station to the lodgement area through airfield control groups. The assistant division commander for support (ADC-S) is initially positioned at the departure airfield to synchronize and coordinate the flow of supplies, personnel, and equipment into the area of operation.

Section II. Special Operations Forces.

During the force build-up and combat operations phase, the SOF units hand-off control of the airhead to the conventional force commander. SFODAs near the airhead link-up with the Ranger TF and redeploy to a secure area (AOB or FOB) or home station to prepare for follow-on missions. SFODAs conducting special reconnaissance on the enemy may remain in the denied area and continue reporting to the AOB or conduct unilateral overland or air exfiltration to the AOB/launch site. SOF

elements may be isolated and launched on new missions to provide operational and/or tactical intelligence to the JTF or JSOTF. Direct action missions for SF, Ranger, or SOA can be conducted against high-value targets. During this phase as conventional force units build up and conduct relief in place they are supported by Civil Affairs and PSYOP units.

Section III. Link-up / Relief in Place.

A. Intelligence.

During a relief in place between a light infantry unit (relieving force) and a Ranger battalion (relieved force) it is essential that the level of threat to be expected by the relieving force is established and that preparations are made accordingly. While an initial brigade reconnaissance and surveillance (R&S) plan can and will be prepared at home station, it is from the information received during the initial liaison for the relief in place that refinements to the plan are made. Of primary importance to the brigade is information received in regards to the threat. From this information final adjustments and changes to the brigades R & S plan and plans for the IEW asset employment can be made.

1. Intelligence Support.

a. The relieved unit will pass information and intelligence data to the incoming force. In addition, provisions must be made for the exchange of EPWs and any captured enemy documents. The relieving brigade should be arriving with interrogator support.

b. Coordination must also be effected to ensure the continuance of any intelligence support which was provided to the relieved force by outside agencies (i.e. national level assets, DIA, CIA, etc.).⁵

2. Employment.

a. Task organizing by the relieving unit must ensure that significant IEW assets are front loaded with the first arriving forces. Early warning and detection of threat forces will be the primary concern of the relieving commander. Consideration should be given to early introduction of a divisional Reconnaissance Squadron for rapid expansion of the divisions intelligence gathering capabilities.

b. Initial IPB efforts at home station should identify the number of REMBASS sensors and GSRs required to provide sufficient 360 degree coverage around the airhead. Based on this requirement the REMBASS and GSR assets should be task organized to the battalions. Of critical

importance is that teams have an identified radio net for reporting, and security by the supported unit is provided.

c. EW assets can be programed for ground employment through the IPB process. Two 4-man low level voice intercept teams should be included in the task organization. Since these assets normally report via IEW dedicated nets, it is imperative they be assigned an initial reporting net within the battalion until additional brigade forces are on the ground.

3. Conduct of the Relief.

While different methods of relief may be incorporated (i.e. piecemeal or as a unit) IEW assets must move and be employed as relieving forces are employed.

4. Security.

While early deployment of IEW assets is essential, they cannot be committed without security provided by the supported force. Consideration should be given towards deploying REMBASS and GSRs with the scouts. This ensures the forward use of both REMBASS and GSR capability and provides accompanying protection. EW assets should be emplaced within the protection of the battalion sector. Due to line of sight employment requirements, EW assets must attempt to establish positions on high terrain features.

5. Control.

During the relief in place the GSR teams will respond to the requirements of the supported unit; while EW assets will respond to the tasking of the battalion (normally through the Battalion S2) and MI unit liaison element.

The following depicts an example battlefield positioning of IEW assets in support of a relief in place.

The first arriving light infantry units already have their attached GSR teams assigned. Additional IEW assets have been programmed into the airflow and remain under control of the IEW company/ team commander or brigade IEWSE. During the initial contact with the key leaders of the relieved force (Ranger Battalion), IEW requirements such as availability of EPWs; exchange of intelligence and current level of threat are identified. From this meeting IEW taskings/requirements can be refined.

While the GSRs move with the light companies and support the establishment of security; voice collection assets establish positions and begin active waiting for enemy transmissions.

Figure 4-2-1 depicts the initial deployment of IEW assets in a relief in place operation.

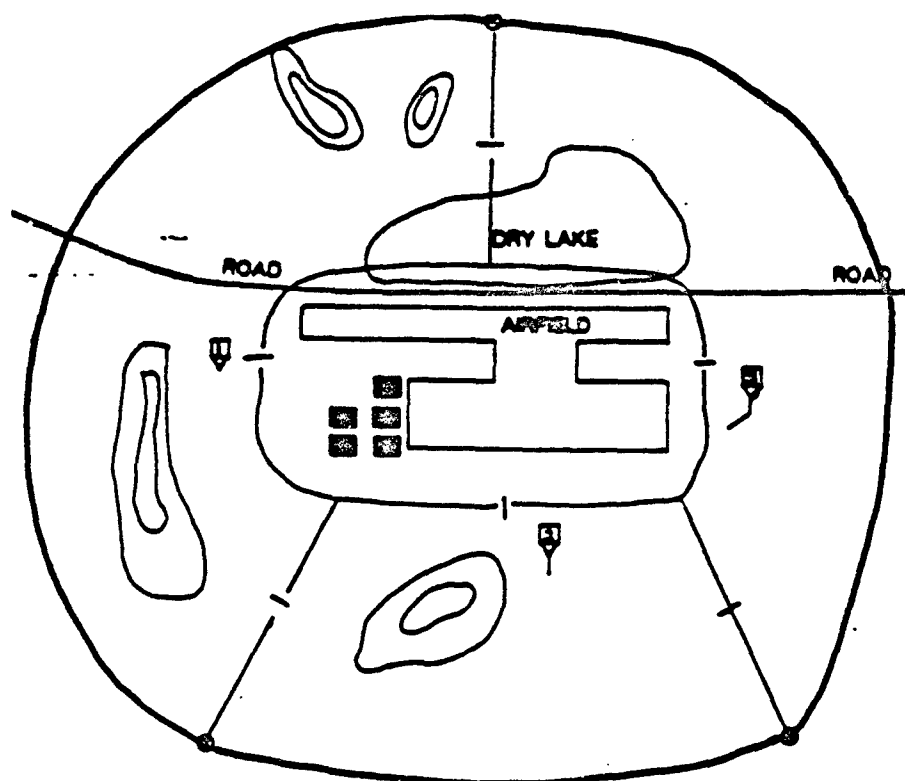


FIGURE 4-2-1. IEW ASSETS. RELIEF IN PLACE.

B. Maneuver.

1. General.

a. A relief in place between a light infantry unit as the relieving force and the Ranger unit as the relieved force follows the same principles established for any relief in place operation.

b. During the planning phase of the contingency operation coordination will occur. This may take the form of a liaison officer from the relieving unit, or the relieving units higher headquarters exchanging information and procedures with the Ranger regiment LNO or Ranger battalion LNO or may result from the Ranger LNO contacting (in person or by means of secure communication) the relieving unit. This initial coordination in the planning phase does not take the place of later coordination meeting during the execution phase between relieving and relieved units. Initial coordination may take place at home station between collocated units or by secure communications between units not collocated. Subsequent coordination will be done at the arrival airfield.

c. The following items, as a minimum, must be covered during the initial coordination:

- * Exchange of enemy information.

- * Exchange of communications information.
- * Use of guides and liaison personnel.
- * Security measures to be used.
- * Control measures.
- * Fire support.
- * Sequence of relief.
- * Traffic control.
- * Transfer of responsibility.
- * Transfer/ exchange of equipment, supplies, ammunition, and minefields.

d. Upon the arrival of the first relief force (light battalion) command group for their link-up with the Ranger battalion HQs in the airhead, the items above in para c will be reviewed.

In addition, coordination will be made for commanders and leaders of both units to conduct a reconnaissance of the area to determine:

- * How the relieved unit is disposed in its defensive position.
- * Location(s) of the assembly area(s).
- * Locations of release points.
- * Locations of contact points.
- * Routes.
- * Location of obstacles.
- * Location of combat support and combat service support elements.

The extent of the recon will be determined by METT-T to include; enemy activity and capability to conduct an attack upon the airhead, condition of the Ranger companies, follow-on mission for the Ranger battalion, and time available to conduct the relief.

e. Upon arrival of the light brigade TAC CP the Ranger battalion will be OPCON to the light brigade until its departure or receipt of orders from the JTF. CPs will be collocated.

f. The relieving unit must be prepared to provide the following support to the relieved unit:

- * Logistical support.
- * Health services support.
- * Fire support.

2. Conduct of the Relief.

The relief in place may be conducted in three ways. First, relieve Ranger companies on the airhead line as light rifle companies arrive (relieving units one at a time). Second, marshal the relieving battalion in an assembly area until its rifle companies have arrived and then conduct the relief in place (relieving units simultaneously). Third is the immediate expansion of the airhead with both the Ranger and the light infantry battalion being given responsibility to defend a sector of the airhead. Relief of the Rangers occurs when the next light infantry battalion arrives in the airhead using the first or second techniques of relief.

The first method is preferred when the combat strength of the Ranger battalion dictates or when higher headquarters has given the Ranger battalion an immediate follow-on mission.

The second method may be used when the probability of an enemy counterattack is low, when the brigade commander determines it is advantageous to assemble the light battalion before the relief, or when there is not an immediate follow-on mission for the Ranger battalion.

The third method would be used when the immediate expansion of the airhead is required and the probability of an enemy counterattack is high.

3. Main/Supporting Effort.

The brigade commander will direct his main effort toward the most dangerous threat to the airhead line. Therefore, priority will go to relieving Ranger companies with task-organized light companies at the point of greatest danger. This is the main effort. As the second light battalion arrives in the airhead the airhead line may be expanded and adjusted to accommodate the supporting effort battalion or the newly arrived battalion may be designated the main effort and conduct offensive operations from the airhead. As the aviation task force arrives, it orients on the main avenues of approach with its attack helicopter assets and provides the commander a counterattack force. It also provides air assault and air movement support to the force.

4. Reserves.

Commanders will designate a reserve. The relieving unit reserve should be of equal or greater mobility to the threat. The commander may designate the AT platoon as reserve initially or may mount a small reserve on available HMMVs. The relieved Ranger unit may be designated brigade reserve until its departure from the airhead.

5. Security.

Security is an inherent responsibility of all commanders. The first priority of the relieving unit is to establish local security. The scout platoon in the light battalion may be used to establish a screen on the most likely enemy avenue of approach to the airhead line following the relief in place. The Division's Reconnaissance Squadron effectively expands the screening of the airhead. Multipurpose light helicopters (MPLH), if available, provide the commander with aircraft capable of rapid assembly and employment (7-10 minutes per helicopter) after being off loaded from USAF aircraft. As the aviation task force arrives its scout aircraft can also be employed to rapidly expand the security zone.

6. Model airhead relief in place. The following example illustrates how a relief in place between a Ranger battalion and a light brigade might occur. The Ranger battalion conducted a parachute assault to seize the airfield at night. They have established positions as illustrated above in Figure 4-2-2.

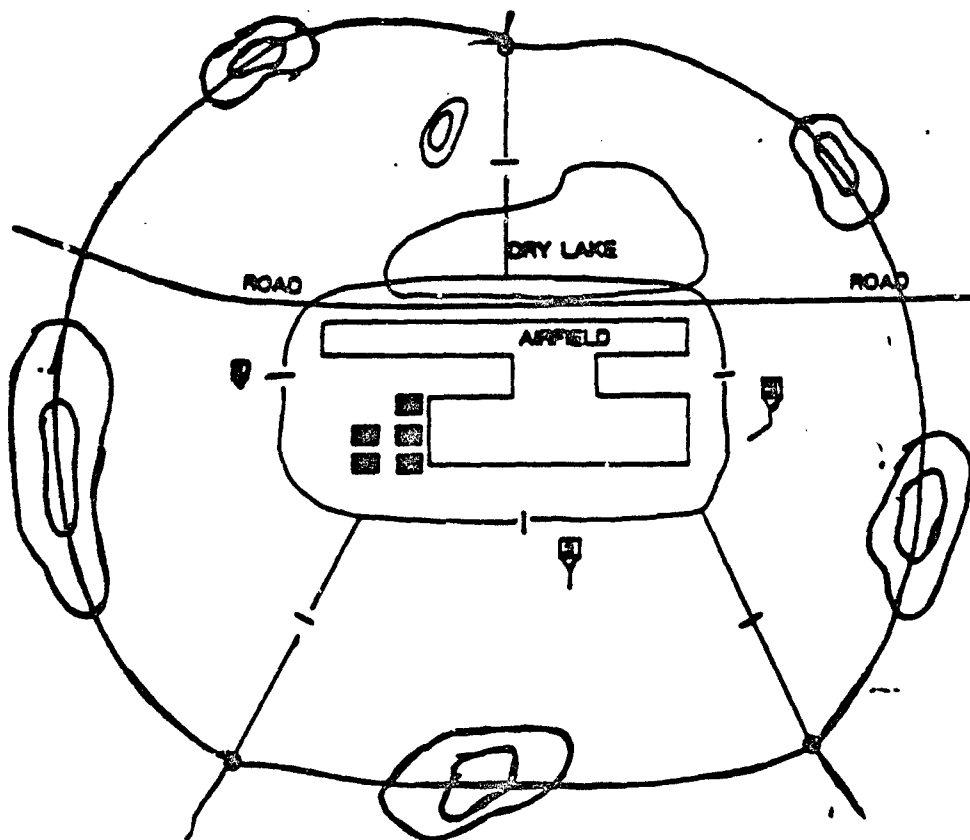


FIGURE 4-2-2. MANEUVER, RELIEF IN PLACE.

The Ranger battalion is defending in depth in dispersed squad and platoon positions. Gaps between positions are covered by observation and fires.

As the task organized light battalion flows into the airhead link-up occurs, guides meet each arriving aircraft and move elements to their assembly areas, and the battalion command groups collocate. Previous coordination is confirmed and the Ranger battalion staff updates the light battalion command group on the situation.

The light battalion command group and lead company commander are briefed that the threat consists of squad sized dismounted patrols and a truck mounted company of approximately 80-100 soldiers. The most likely avenue of approach is from the east.

The Ranger battalion commander states that his combat strength is approximately 90%, that he has no CSS problems, and that he has orders from the JTF for a follow-on mission and the ranger battalion is to redeploy on aircraft bringing in the second light battalion. He explains his disposition and the most recent activities.

The brigade commander is updated upon his arrival in the airhead as his TAC CP arrives in subsequent aircraft.

The light battalion commander elects to relieve ranger companies as his light infantry companies arrive in order to speed the process and allow the ranger battalion to assemble as quickly as possible in order to begin the redeployment process.

Arriving light infantry companies move to company assembly areas vicinity the airfield where they establish security, and key leaders are briefed. As soon as possible,

the light company moves to the contact point where each platoon links up with guides from the ranger companies. They then move to the airhead line and conduct the relief in place.

The light battalion commander moves his companies to the most dangerous sectors initially. As the airflow continues, the battalion AT platoon is sent to establish initial firing positions. The first artillery battery is offloaded and positioned to provide indirect fires to units in the airhead line.

As ranger companies are relieved they move to a battalion assembly area separated from arriving units and cargo, and begin redeployment procedures.

The passage of command occurs when the light company commanders assume responsibility for their sectors and the light battalion commander has sufficient communications to establish control over the airhead line. The relieving and relieved battalion commanders agree to pass command of the airhead line when two light infantry companies are in position. This does not preclude the brigade from specifying a time in the brigade order.

The ranger companies and light infantry companies, similarly equipped, may exchange items of equipment. Typically this will not occur as the ranger battalion will not have established a prepared defense of the airhead nor have time to lay in machine guns or tripods.

7. Rear Operations.

Normally, a light brigade occupying an airhead line will not initially establish a tactical combat force (TCF).

C. Fire Support.

Conduct of a unit relief in place requires great care and coordination. Under normally conditions the relieving unit establishes liaison prior to commencement of the relief. In contingency operations liaison is not always possible prior to commencement. To facilitate a relief in place during a contingency operation several key areas must be closely coordinated during the relief:

1. Relieving forces should position 81mm mortars to relieve 60mm mortars of the SOF/Ranger forces. Firing data for preplanned targets must be updated and mortars registered by the relieving unit as soon as possible. The contingency force should not remove its mortars until the

relief force mortars are registered and prepared to fire.

2. Fire control measures must be reviewed and updated to accommodate the relieving force. Maneuver boundaries should not be adjusted until the relief is complete. Fire control measure must be verified by both fire support and maneuver force commanders to ensure they are in agreement.

3. Air Space control measures must be reviewed and updated to ensure they are not violated by the relieving forces. Particular attention must be given to the differences in weapons systems replacing others.

4. Additional assets of the relieving force must be integrated into fire support plans and ground defense plans.

5. The FSCoord of the relief force must coordinate directly with the FSO of the contingency force being relieved. The target list, fire support execution matrix, and fire support coordination measures and any special requirements needed to execute the fire support plan must be given to the FSCoord to facilitate the relief.

D. Mobility/Counter mobility/Survivability.

1. In the initial phases of force buildup, the light infantry brigade (relieving force) relieves the Ranger Battalion (relieved force)

in place at the airhead. The relief in place is planned during the pre-deployment phase of the contingency mission. The brigade engineer attends coordination meetings during the planning and execution of the mission. The brigade engineer exchanges information with the Ranger Regimental/Battalion LNO on:

- * Template of enemy obstacles and fortifications protecting the airfield.
- * The expected condition of the airfield after seizure.
- * The planned use of friendly obstacles by the relieved force against counterattack.
- * M/CM/S characteristics of the area of operations.
- * Plans for obstacle turnover from relieved force to relieving force.
- * Turnover of engineer specific items left or seized by the relieved force.
- * Engineer contact point for the final exchange of information during the relief.

All information gathered during the planning phase is disseminated to the TF engineers, particularly the lead TF engineer.

2. During the relief, the brigade or lead TF engineer attends the final coordination meeting when relieving unit makes contact. The lead TF engineer accompanies the brigade commander on his joint reconnaissance with the relieved unit commander. At a minimum, the lead engineer makes contact, with the ranger regimental/battalion operations officer and S2 at that units TAC or TOC. A minimum of a light engineer platoon and company headquarters supports the lead light battalion and begins accepting obstacle hand-over and emplacing protective obstacles as the light unit relieves the rangers. The amount of light engineers may be increased if extensive enemy obstacles are expected.

3. The engineer company supporting the lead light battalion task organizes into four squad-size sapper teams, each supporting an infantry company. The relief between light infantry and Rangers is initially conducted by company. Each light company assumes the perimeter sector of a Ranger company. As the light infantry moves forward to relieve each Ranger position, sapper teams accept turnover of both friendly and enemy obstacles within the company sector. The sapper teams begin immediately breaching/clearing lanes in enemy obstacles. The sapper teams also begins emplacing protective obstacles on the most likely high speed avenues of approach.

4. Engineers in the second light battalion remain consolidated under TF control. As the second light infantry battalion air lands, the perimeter is adjusted. The engineer company with this second battalion is centralized under BDE or TF control. Their priority effort is preparing the second line of defense around the air head/port. Engineer work in the second line defense centers on the emplacement of relatively permanent protective obstacles and construction/improvement of fortifications. The second line of defense is the first event requiring extensive engineer equipments and material. The extent of the preparation must be considered when planning the airflow of obstacle material and engineer equipment into the air head.

E. Air Defense Artillery.

1. Planning considerations for link up and relief in place:

- * Relieve ADA systems in place; do not degrade defense of asset.
- * Tie-in with HIMAD/AWACS early warning sources.
- * Coordinate with departing unit on enemy situation/threat and obtain their assessment of air avenues of approach.

- * Position own systems IAW commander's air defense priorities.
- * Determine what the air threat and enemy capabilities are.
- * Determine air avenues of approach.
- * Determine the present weapons control status and air defense warning.
- * Determine or establish hostile criteria and rules of engagement.
- * Establish the locations of friendly ADA units.
- * Coordinate integration into HIMAD coverage.
- * Establish the commander's air defense priorities for protection. Link up with any early warning capability in the area (HIMAD, AWACS). Determine the best locations to position air defense systems. Obtain and disseminate airspace control measures.

2. In the relief in place of the ranger battalion protecting the airhead, the air defense platoon leader attached to the light battalion will coordinate with the ranger force ADA coordinator. Their coordination

will cover air IPB, current air activity, and the ranger's present fire unit positions.

3. In the following example the light battalion's ADA assets consist of a platoon of towed Vulcans and 5 Stinger teams. The air defense battery commander supporting the light brigade has attached two FAAR radars to the platoon to establish early warning for the brigade prior to its arrival in total.

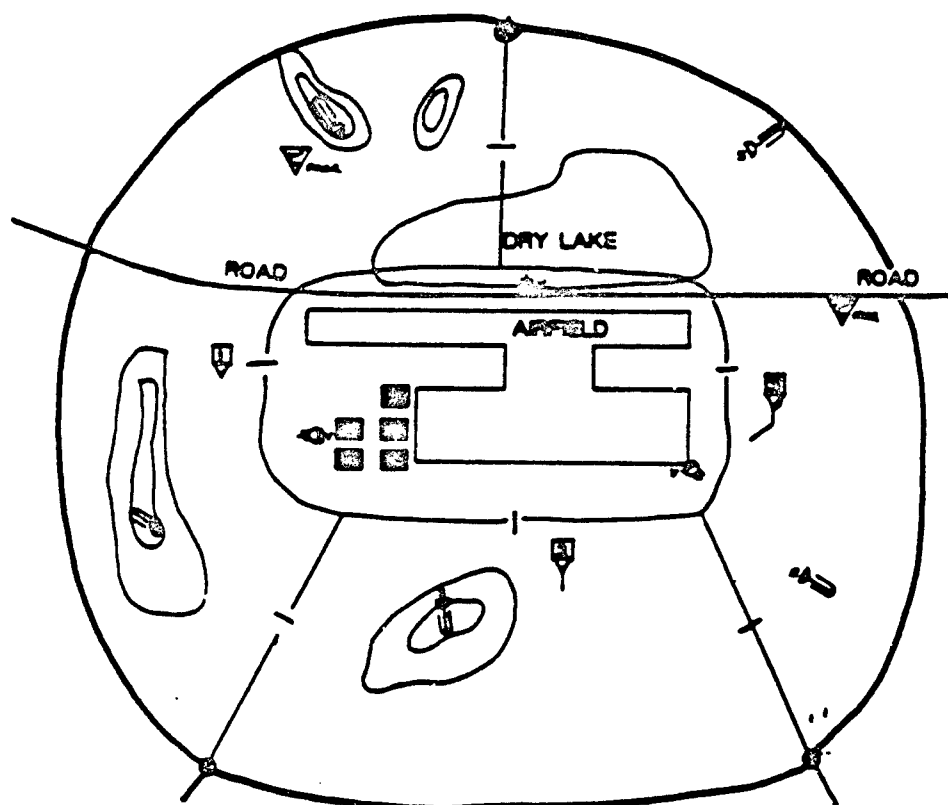


FIGURE 4-2-3. FINAL ADA POSITIONS.

The air defense platoon leader with the light battalion task organized his assets in the following manner:

The light company in the east received 2 Stinger teams in direct support, the light company in the west received 2 Stinger teams in direct support, and the light company in the south received 1 Stinger team in direct support. He kept the towed Vulcans in general support of the battalion with emplacement around the airhead for close-in protection. (See Figure 4-2-3 ,above for final ADA positions.)

As the light battalion's air defense fire units arrive at the airhead, they will move out to designated fire positions picked by the platoon leader. The two FAAR radars should arrive in the first lift and emplace one in the east and one in the west to provide early warning to the units. As the rest of the air defense assets arrive, they move out and become incorporated into the ranger battalion's air defense coverage. The air defense fire units with the ranger battalion should be with the last ranger units to depart the airhead. Their additional air protection will aid in ensuring good coverage. Once the ranger air defense assets are gone, the light air defense platoon leader will assume complete control of the air defense mission.

The air defense platoon leader positions 1 Stinger team on the high ground available in the south to cover the air avenue in that sector. He places 2 Stinger teams in the west to cover the air avenues in that area and 2 Stinger teams in the east to provide coverage in that sector. He kept the towed Vulcans in close to the airhead so that their fires will provide close-in protection and they can support the light infantry companies with indirect or direct ground fires. As the rest of the light brigade arrives with additional air defense assets, they will be incorporated into the air defense plan as deemed appropriate by the air defense battery commander.

F. Combat Service Support.

1. During the early stages of the force buildup and combat operations phase, maintenance support will consist primarily of reliance on component exchange, battle damage repair, and cannibalization of combat damaged equipment. As the phase progresses, host nation facilities may become available as will the remaining maintenance elements of the task force upon complete deployment. In the early stages of this phase, supplies are received by air to include air drop if required. Distribution to supported units is normally accomplished by a combination of supply point distribution and aerial resupply via container delivery

system (CDS) and the low altitude platform extraction system (LAPES).

2. CSS considerations and planning factors for link up and relief in place:

- * CSS link up operations must be planned and coordinated in detail to ensure that it is consistent with the commander's intent and scheme of maneuver.
- * Material handling equipment (i.e. forklifts, etc. should arrive early to facilitate rapid unloading and movement of cargo.
- * A maintenance contact team should arrive early into the airhead with limited combat ASL to rapidly fix and repair equipment.
- * A medical treatment facility (MTF) is established at the airhead to triage, treat, and return soldiers to duty, or stabilize patients for evacuation.
- * Prior coordination for the use of nonmedical air assets to evacuate patients should be established. If possible, augmentation of medical personnel to provide in-flight patient treatment should be accomplished.

- * If required, the engineer elements should be airlanded or parachuted into the airhead to repair and upgrade the airfield to support follow-on airland.
- * The FAST will provide class I, water, class V, class VIII and medical treatment to SOF units in and around the airhead. SOF must identify these requirements to the Brigade S4/FASCO.
- * During heavy-light linkup operations, the heavy task force moving to conduct linkup should bring its organic CSS assets with the combat and CS assets.
- * The heavy force CSS should include those assets provided by the FSB to fill shortfalls in the ability of the light FAST to support a heavy unit.
- * Battle damage assessment must be conducted rapidly and determinations made on the necessity to evacuate the vehicle to the rear, or to tow the vehicle to the linkup point if it cannot be repaired.
- * Establish graves registration services (GRREG).
- * Coordination must be conducted by the two units conducting

the linkup. Detailed information on support locations, capabilities, and limitations must be exchanged.

- * The senior maneuver commander determines when support shifts. In a contingency operation, this is accomplished prior to deployment.
- * The DISCOM Commander/ADC-S establishes priorities for the flow of CSS assets and supply into the airhead. These priorities are determined by METT-T. Priorities must focus on providing assets to arm, fix, and fuel combat elements on the ground.
- * As early as possible, an army airfield control group (AAGC) and airlanding control element (ALCE) should be brought into the airhead to manage and control incoming elements and control positioning of assets on the ground.
- * During heavy-light link up operations, the force moving to conduct the linkup will evacuate casualties to the rear until the actual linkup occurs. Then casualties will be evacuated forward.

3. Military Police Operations.

During the initial employment of the light brigade, the light MP platoon is employed to secure EPW and civilian internees taken by the contingency forces and prepare them for extraction as soon as possible. Additionally, they will provide security to the logistical base as it is established and limited security to the Brigade headquarters.

G. Command, Control and Communications (C³).

1. C³ Considerations for a link-up.

There are two different link-up contingencies that may take place. These are between a ranger battalion and light battalion and between a light battalion and heavy battalion. The SOI and signal plan must standardize not only frequencies and call-signs but address visual signals as well for daylight and night operations. Formulation of the signal plans is normally accomplished at the higher command headquarters in coordination with the signal representatives of the forces involved. It should include the coordination of speech security equipment and keylists.

2. C³ Considerations for a Relief in Place.

To maintain security, maximum use is made of the outgoing unit's radio nets and operators. The relief is conducted on the command

frequency of the outgoing unit at all levels. The outgoing signal officer remains in charge of communications throughout the entire relief. Once the link-up occurs, minimal radio traffic during the relief should be required. As the light units move in, wire lines must begin to be established between command posts, observation posts, and headquarters elements to ensure adequate communications for the follow on establishment of the perimeter defense. Prior to the wire line installation, a runner or messenger service should be established.

The CPs of the ranger battalion and the first light infantry battalion will be collocated in order to expedite the relief in place and to take advantage of the existing communications links to the JTF and any established communications within the airhead.

The brigade TAC CP communications package (to include multichannel TACSAT and switchboard) should be installed to support both the Brigade TAC CP as well as the division TAC CP when it arrives on subsequent lifts. This link will also support the ranger battalion and its movement out of the airhead.

Section IV. Perimeter Defense.

A. Intelligence.

1. IEW support to the perimeter defense is a follow-on development and further extension of the relief in place. During the relief in place, IEW assets deploy and establish positions with the first light security forces. In the perimeter defense, positions will be further developed, gaps in surveillance identified, and reporting channels indurated. IEW assets supporting the perimeter defense include GSRs, voice collection, direction finding, and counterintelligence.

2. As the perimeter defense takes form, a formal battalion/brigade reconnaissance and surveillance (R&S) plan is implemented. Intelligence gaps, likely enemy avenues of approach, and movement of threat forces are just a few of the primary considerations which drive the R&S plan. Intelligence assets must be positioned to provide as close to 360-degree coverage as possible.

3. With the primary emphasis of early warning and identification of the enemy intentions, requests for IEW support from higher commands (i.e. corps) should be initiated. Aerial platforms from the Division's Reconnaissance Squadron can expand the "eyes and ears" of the perimeter defense forces.

4. Communications play an obvious vital role in ensuring dedicated and responsive reporting by IEW assets. Consideration should be given towards the establishment of a separate brigade intelligence net to insure rapid reporting of enemy intentions and actions. The voice collection and

direction finding assets will report via the collection platoon's operations net and information/intelligence will flow into the brigade through the IEASE.

Figure 4-2-4 depicts the deployment of IEW assets in support of a Task Force defense of an airfield.

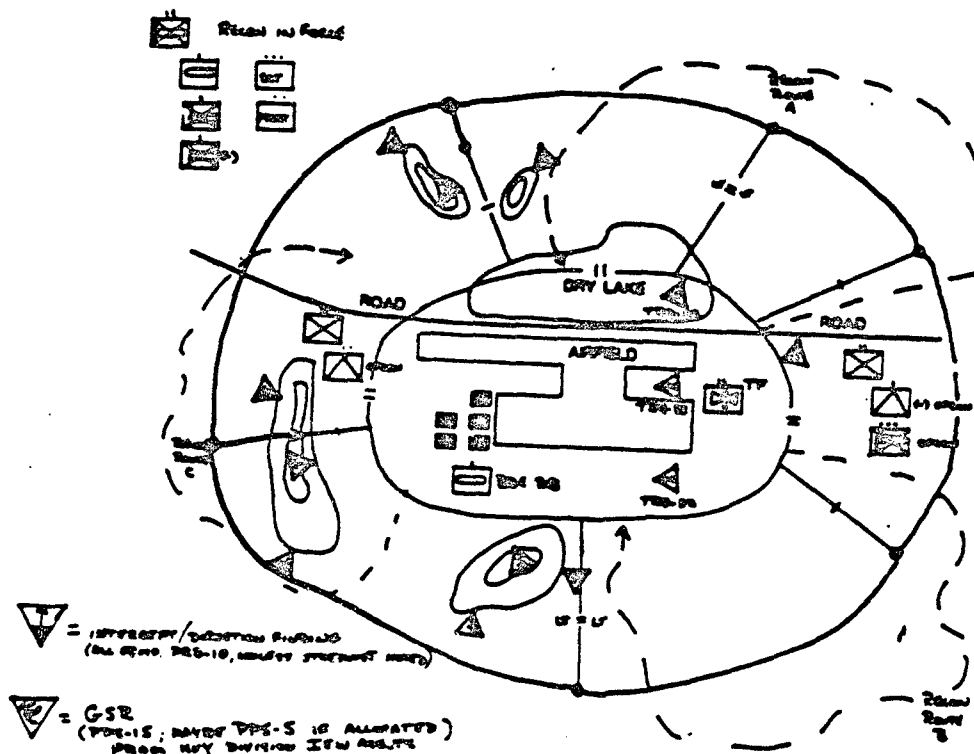


FIGURE 4-2-4. IEW, PERIMETER DEFENSE.

5. Counterintelligence (CI) personnel will perform the CI functions appropriate to the particular situation in support of the mission to protect the force. Consideration for employment of the GSRs with night vision devices should be given to minimize GSR activation time. In addition, the role of GSRs for vectoring reconnaissance patrols should be weighed.

B. Maneuver.

1. Perimeter defense of an airhead requires a 360 degree oriented defense. It is established when critical terrain must be held and the defense cannot be tied to adjacent units. The critical terrain could be a bridge, airfield, or landing zone. Depth will rarely be achieved in a perimeter defense, consequently it is particularly vulnerable to attack by enemy armor or mechanized forces.

Security should be placed as far out as possible. The reconnaissance squadron provides the most rapid response force with helicopters moving rapidly to establish an outer security ring. Anti-armor weapons should concentrate fires at restrictive terrain on armor avenues of approach. A heavy reserve, including attack helicopters, is required when there is an armor or mechanized enemy threat. Figure 4-2-5 is an example of a perimeter defense established around an airhead by a LT/HVY Brigade.

2. The perimeter should be expanded as far as practical for the defending unit. Sufficient combat power is generated and tactical operations are conducted to fully secure the lodgment area by expanding the security area out to the range of organic indirect fire weapons. Insure the perimeter remains a defense and not a screen line. Light battalions can be task organized with heavy units to increase the length of the perimeter, increase their anti-armor capability, and provide the battalion a mobile reserve. Patrols, by air, mounted and dismounted, are used to cover areas not observable by OPs. Perimeter units must know what security forces are to their front to coordinate efforts.

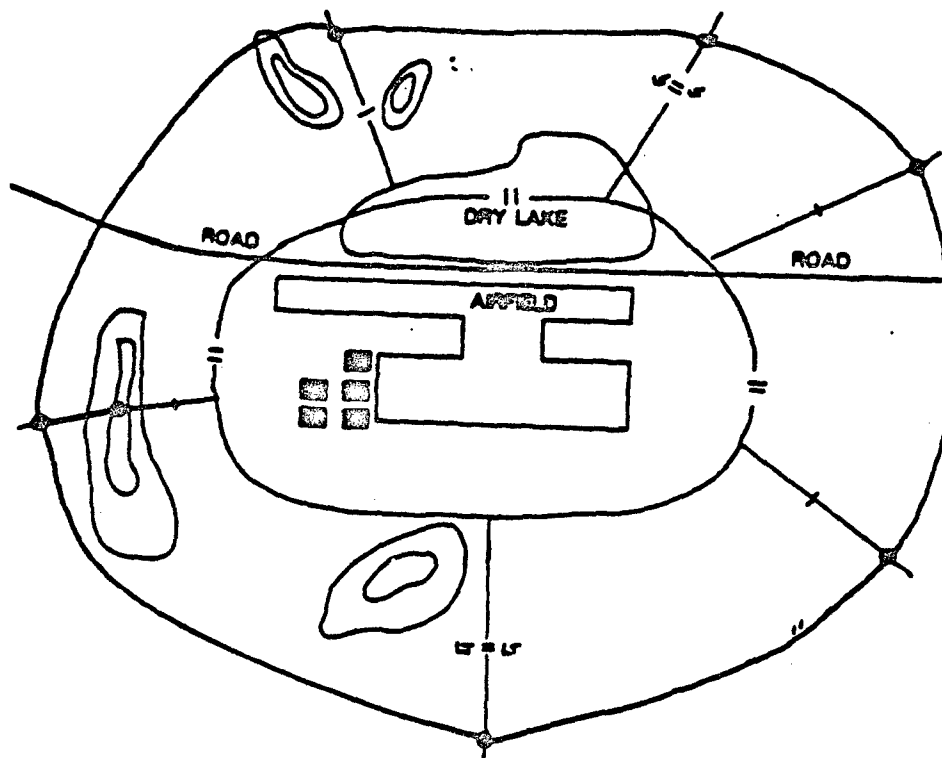


FIGURE 4-2-5. INITIAL LT-HVY PDE, DEFENSE OF AN AIRHEAD.

3. The following model demonstrates establishment of a perimeter defense of an airhead:

The light battalions are positioned to establish and maintain a defense and not a screen. The heavy task force and aviation task force have arrived in the airhead and are prepared to be employed.

The brigade commander decides to place one M2 equipped mech company OPCON to each light battalion. This gives them a mobile reserve or a force to conduct mounted patrols to expand the security zone around the perimeter.

Evaluating the avenues of approach, identifies armor threats from both the east and the west, with the most dangerous in the east. To improve the anti-armor capability of both battalions, he places 1 ITV platoon OPCON to the western battalion, and the AT company OPCON to the eastern battalion.

The brigade commander task organizes the heavy task force with two tank companies as the brigade reserve. The aviation brigade task force is also given a mission to coordinate possible engagements on likely avenues of approach. To secure the airfield, he attaches one light

company from the western light battalion. Their mission is to secure the immediate area around the airfield, with priority to the CSS buildup and to be prepared to react to block armor threats or counterattack to restore the perimeter.

Once this task organization is established, the brigade assigns both light battalions the mission of movement to contact. The aviation task force is assigned the mission of providing supporting fires to the battalions as they expand the perimeter. Their limit of advance is based on terrain which would expand the perimeter to approximately a 10-kilometer diameter.

The light battalion accomplishes this and occupies hasty defensive positions oriented on the avenues of approach into the perimeter.

To increase the security of the perimeter, the brigade again changes the task organization. The eastern battalion retains the AT company and one mech platoon OPCON. The western battalion only retains the one AT platoon OPCON. The brigade designated a single tank company the reserve. It assigned the heavy task force three mounted reconnaissance in force routes to extend the security zone

of the perimeter by not allowing the enemy to stage for an attack. The heavy force conducts these missions like a movement to contact with a tank company, mech company, mech company, scout platoon, mortar platoon, engineer platoon, and fire support from the brigade (figure 4-2-6). The reconnaissance squadron screens areas not covered by the ground reconnaissance force.

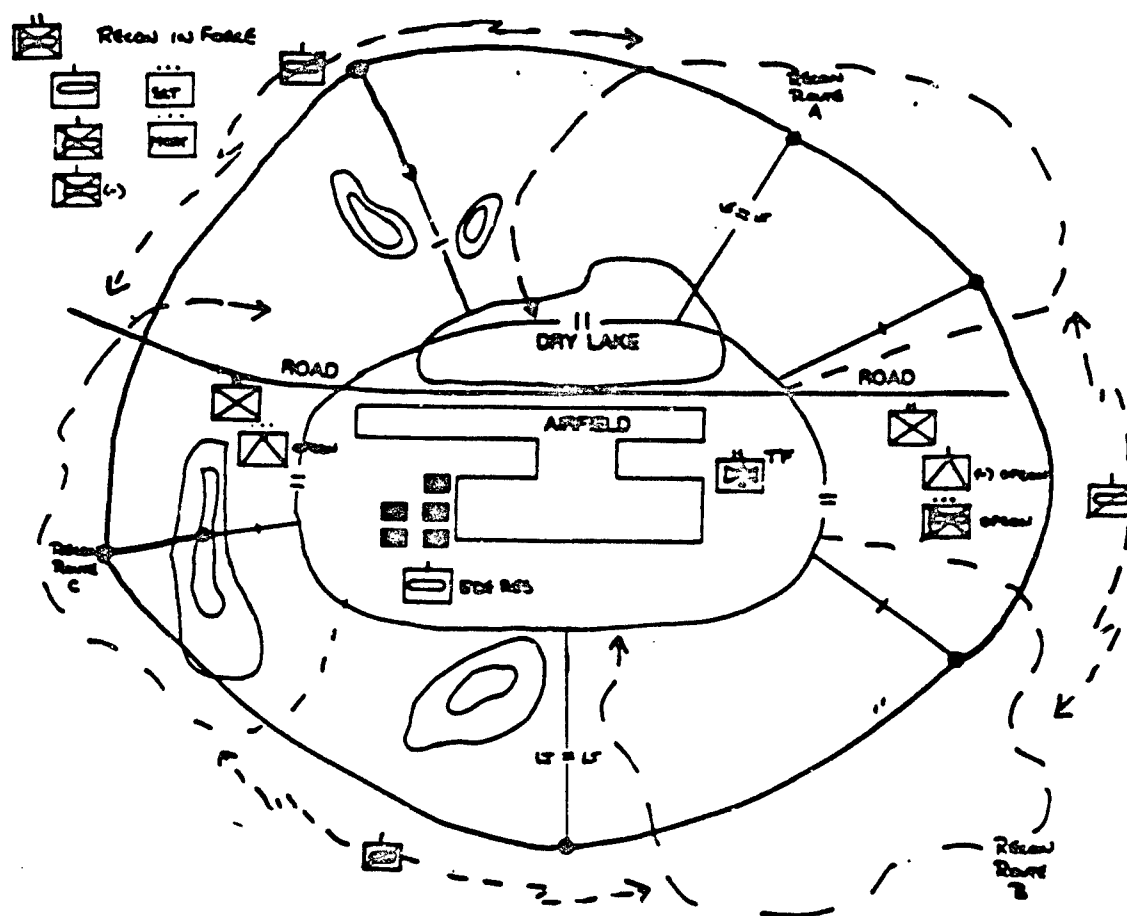


FIGURE 4-2-6. LT-HVY EDE, DEFENSE OF AN AIRHEAD.

4. The reserve should be located in the most likely enemy avenue of approach into the perimeter with an on order mission to react to the enemy on other approaches. The reserve must be prepared to block penetrations or counterattack to restore the perimeter. Once committed, the reserve must be reconstituted. The reserve can include light forces if terrain is restrictive, or security of the CS and CSS units needs to be increased.

C. Fire Support.

1. Indirect fire assets are an integral part of the defense of an expanding airhead. As forces build up the air head priority should be given to inbound aircraft containing anti-armor and indirect fire assets. A recommended mixture of forces is one AT section, and one platoon of artillery or mortars per company arriving at the airhead.

2. As mortar platoons arrive they should be assigned sectors of responsibility for providing smoke and illumination fires. Artillery platoons should be assigned to sectors to provide direct fire coverage in support of maneuver units. Guns must also be laid to provide indirect fires if necessary to block attempts to penetrate the perimeter.

3. Light artillery should be assigned sectors likely to be used by dismounted enemy forces. Placement of guns should be well forward of or

integrated into the perimeter defense of the maneuver force. The 105mm has an outstanding anti-personnel round (Beehive) and an anti-armor capability (HEAT and HEP) for use against lightly armored wheeled and tracked vehicles. Engagement of targets should be done with a minimum of two guns. Light artillery can also be used to conduct illumination if mortars are unavailable. Control should be decentralized.

4. Heavy/ medium artillery should be positioned in sectors with a greater probability of mounted targets. The 155mm howitzer does not have a APERS round but can be employed against dismounted targets using a technique known as "Killer Junior" (HE/time fuze technique). The 155mm howitzer does not have an AT round but the weight and muzzle velocity of the HE projectile make it very effective in a direct fire mode. Targets should be engaged with two guns simultaneously, and should be integrated with maneuver force AT systems to provide coverage across their assigned sector. Control should be decentralized.

5. Counterfire radar systems should be positioned and assigned search sectors from which enemy indirect fire assets could most likely be employed against the airhead. Mortars or artillery assets should be allocated to fire counterfire missions against targets identified by radar. If available, a firing battery (preferably 155mm) should be located in the center of the perimeter to respond to indirect fire missions immediately.

6. Mortars should be massed and assigned priority targets or FPF's around the perimeter. Control of mortars should be centralized as part of the overall perimeter defense plan for the airhead. Mortar fires should be planned to support actions of the reaction force/reserve.

D. MOBILITY/ COUNTERMOBILITY/ SURVIVABILITY.

1. The brigade organizes a perimeter defense during the later stages of force buildup. The perimeter defense is organized around decisive terrain from which the brigade will conduct initial combat operations. The enemy and friendly situation dictate the extent of engineer work to support the defense. The critical issues are: what is the enemy capability to launch a formidable counterattack; and how long before the force is able to begin conducting decisive combat operations.

The amount of engineer effort required further drives the airflow and priority of engineers forces and equipment into the airhead. If both light battalions and the heavy TF have closed on the airhead, the engineer troops available are two light engineer companies and a mechanized engineer company minus its heavy equipment.

2. Countermobility support of the perimeter defense is limited by the very nature of the perimeter defense. The defense has very little depth and is protective oriented. As shown below the force structure base

of the defense is two light TF each augmented by a mechanized infantry CO/TM. The combination of wide, shallow sectors, limited long range weapons and protective nature of the defense leaves almost no opportunity to use tactical obstacles to shape the battlefield.

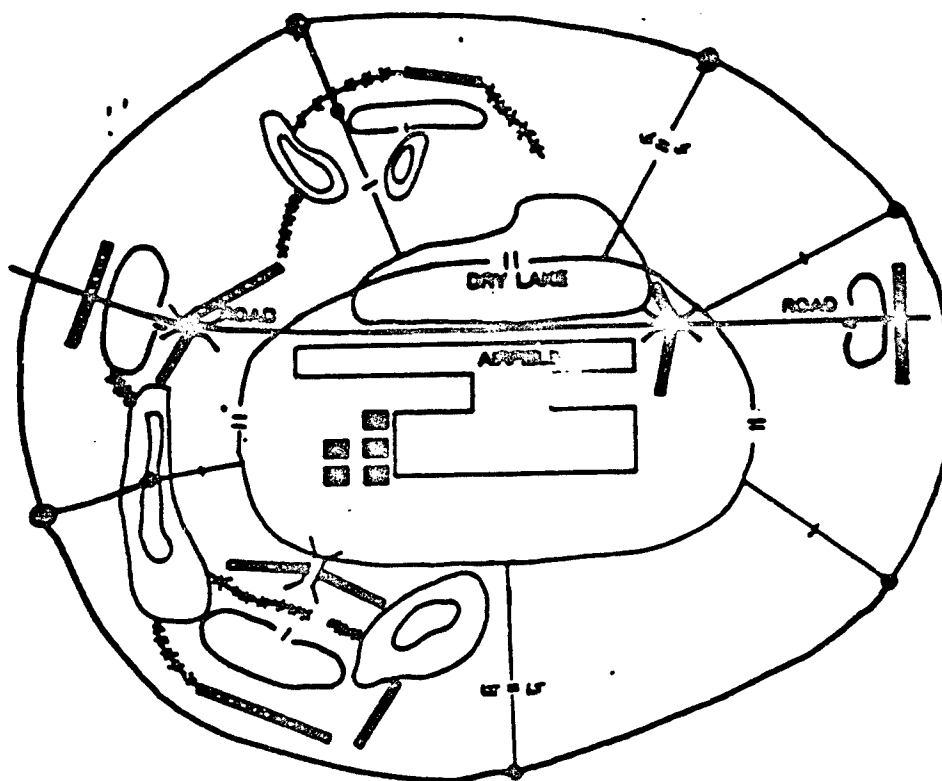


FIGURE 4-2-7. M/C/S. PERIMETER DEFENSE.

3. The priority of engineer effort in the perimeter defense is generally to survivability of the force through the emplacement of protective obstacles and fortifications for critical CS/CSS assets. The light and heavy engineer effort concentrates on the emplacement of

protective obstacles on the main avenues of approach. The engineer considers the nature and capability of the counterattack threat in weighing protective obstacle effort towards anti-armor or anti-personnel.

The analysis of the threat is critical to prioritizing the flow of obstacle material into the airhead (i.e. a sizeable armor threat requires more anti-tank mines). The commander and his engineer consider the degree to which existing facilities within the perimeter can be used as fortifications to protect critical assets. If existing protection is limited, engineer equipment must be identified for host nation support or organic equipment prioritized for airlift.

4. Light engineer forces begin emplacing protective obstacles to support light forces immediately after the extent of the perimeter is established. Light engineers are adept at protective obstacle emplacement which is more manpower than material intensive. However, the shallow, wide sector requires extensive movement; the light engineer should be augmented with transport to include helicopter assets, as soon as possible. Link up with the mechanized engineer forces becomes a priority to alleviate the limitations of light engineers. Once link up is effected, engineer forces cross task organize in even light-heavy mix platoons to continue preparation of the perimeter as shown in Figure 4-2-7.

5. A major consideration in perimeter defense obstacle emplacement

is the impact protective obstacles have on future operations. Protective obstacles in the first line defense must be recoverable when the brigade moves to conduct decisive combat operations. Conventional mines should be surface laid and anti-handling devices not utilized. MOPMS is an excellent asset to be used in the front line perimeter defense since it allows command activation. In the second line defense in the perimeter, protective obstacles can be more permanent and lethal. Once the force moves to conduct decisive combat operations, the protective obstacle in the second line become the front line defense of the logistical base at the airhead.

6. The transition from force build up to decisive combat operations is marked by a series of reconnaissance in force actions by the heavy force forward of the perimeter FEBA. The mission is conducted like a normal movement to contact. Mechanized engineers task organize with the heavy force to conduct obstacle reconnaissance with the HVY scouts, to provide the capability to conduct in-stride breach to the advance guard and main body, and if required, the capability to transition into a deliberate breach.

E. Air Defense Artillery.

1. During the conduct of the perimeter defense the light ADA battery commander would have overall control of all the air defense assets within the brigade.

2. The following model is provided to demonstrate air defense considerations during a perimeter defense of an airhead.:

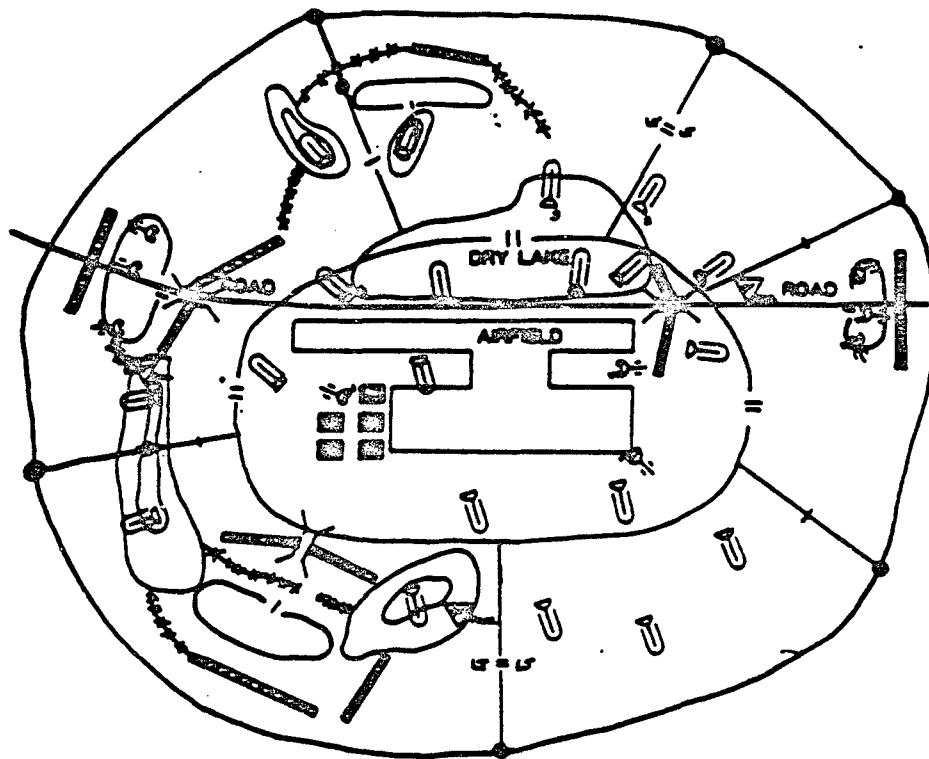


FIGURE 4-2-8. ADA, PERIMETER DEFENSE.

The commander of air defense assets would task organize in the following manner. He would give the light battalion in the east 1 towed Vulcan platoon and 5 stinger team teams

in direct support. The light battalion in the west would receive 1 towed Vulcan platoon and 5 stinger teams in direct support. The heavy TF conducting the recon in force would receive 1 SP Vulcan platoon and 5 stinger teams in direct support. The remaining 10 stinger teams and 1 towed Vulcan platoon would be in general support to the brigade.

The air defense battery commander would keep the three FAAR radars in general support and position them to maintain 360 degree coverage over the brigade's area. This would maintain early warning to all units.

The platoon leaders of the platoons in direct support to the light battalions provide the air defense battery commander the positions of their fire units. The battery commander incorporates the air defense coverage of the two platoons in direct support to the light battalions into his overall air defense defense plan insuring that all the air avenues of approach per the air IPB are covered. By placing those fire units forward into the battalions, the battery commander can obtain early engagements, a mix of weapon systems, and a depth in his defense.

The platoon leader in the west positioned his air defense assets in the following manner. He places the towed

Vulcan platoon with the light company in the center. This will provide both air defense and give them additional ground fire support. This will assist in protecting the avenue of approach along the road. He gives the light company in the northern battle position 2 stinger teams. These teams are positioned on the high ground so they can mutually support each other and monitor the air avenues within that sector. To the light company in the south, he gives 3 stinger teams. He also will ensure that the BP will be within the coverage of at least 1 stinger team from an adjoining company. These teams are positioned on the high terrain to provide overwatch of the battle position and monitor the air avenues of approach into the sector.

The platoon leader in the east has placed his towed Vulcan platoon into the battle position protecting the road. This will give that company air defense coverage and additional ground fire support. He gave the light company in the northern sector 3 stinger teams to cover the air avenues within that area and the remaining 2 stinger teams go to the light company in the southern part of the sector to cover those air avenue of approach. He also will ensure that the BP will be within the coverage of at least 1 stinger team from an adjoining company.

The self propelled (SP) Vulcans and stinger teams in direct support of the recon in force battalion will be distributed by the platoon leader in accordance with the battalion commander's priorities. The SP Vulcans are provided due to their capability to keep up with the heavy TF. The stinger teams will provide air defense range for the force.

The air defense battery commander displaced his 1 towed Vulcan platoon to provide close in fire support for the airhead. He emplaces the ten stinger teams in a 360 degree perimeter defense surrounding the airhead. This provides air defense coverage for the airhead, C² facilities, and logistics support within the area. A look at the sketch attached shows coverage in depth, a mix of weapons, a massing of weapons, and an early engagement capability (All air defense employment guidelines) to protect the Brigade commander's air defense priorities.

F. Sustainment.

1. CSS assets within the perimeter should be in protected locations from which they can provide continuous support. They must be incorporated into the defense plan; however, their primary mission is to support the

force. As they become more involved in the protection mission, support is degraded.

2. CSS locations and movements should not restrict or be restricted by the fires or movement of perimeter fire support and the reserve element.

3. Supplies, particularly ammunition and barrier material, may be stockpiled. However, the stockpiles should not present targets of opportunity for the enemy.

4. Individual units may stockpile ammunition to individual crew served weapon system.

5. Units should plan to have litter bearers available to evacuate wounded from the perimeter to the aid station.

6. Aid stations and the clearing station should be dug in as much as possible.

7. Resupply will likely be by air. Landing zones and drop zones should be planned.

8. Plans should be made to reduce traffic to battle positions to decrease the chance of detection. One possible means is to use unit configured loads.

9. Plan to push ammunition to units in contact.

G. Communications.

1. Signal Support for the Perimeter Defense:

- * Primary means of communications for the static portion of the perimeter is over the brigade switchboard and wire lines.
- * Mobile forces, such as the reconnaissance patrols will use VHF radios when necessary.
- * Plans for alternate means of communications must be developed in the perimeter to include VHF and HF radio, messenger, and visual communications.
- * The primary means of communication to the JTF will be by multichannel TACSAT with single channel TACSAT in reserve.
- * Limited single channel radio is used because of ECM.

2. General:

Communications at brigade level in the perimeter defense call for limited radio emissions, and maximum use of wire for the static force. Reconnaissance forces should use VHF or HF radios only when necessary. Radio listening silence should be enforced on all stationary radios.

3. Specific:

In the perimeter defense, all major elements of the airhead are included in the communications plan to include defense, reconnaissance and reserve forces. Although wire is the primary means of communications for static forces, alternate means must be planned. All brigade, battalion, and company radio nets will remain operational but on listening silence.

4. Communications Nets in the Perimeter Defense:

- * Brigade Command (CMD) FM net.
- * Brigade operations/ intelligence (OPS/INTEL) net.
- * Brigade administration/ logistics (ADMIN/LOG) net.
- * Battalion/ TF command (CMD) nets.
- * Battalion/ TF OPS/INTEL nets.

- * Battalion/ TF ADMIN/LOG nets.
- * Company/ TM command/ operations (CMD/OPS) nets.
- * Fire support and field artillery nets.
- * Reconnaissance and surveillance nets.

PART THREE: DECISIVE COMBAT OPERATIONS

Section I: Introduction.

The decisive combat operation phase is an extension of the force build-up and combat operation phase. Combat forces and a logistic base are concurrently established and expanded to support decisive operations. As the situation in the lodgement area is stabilized, and as directed, the brigade performs expanded combat operations from the lodgement area to eliminate the enemy force. These operations can be both offensive and defensive in nature and will require additional combat, combat support, and combat service support forces.

The focus of this chapter is on light and heavy force operations at brigade and battalion level. The focal point of the chapter is on providing doctrine, tactics, and techniques to light commanders for the employment of subordinate heavy forces and to heavy task force commanders for the employment of light forces during the decisive combat operation phase of a contingency operation.

Section II: SOF.

A. During the decisive combat operations phase, SF elements can conduct special reconnaissance missions to provide operational and/or tactical intelligence to SOF and/or conventional headquarters; under the command and control of a SOF HQ, SF, Rangers and/or SOA can conduct direct action missions against high value targets in support of conventional operations; Ranger battalions can be attached or placed OPCON to a conventional headquarters to perform its light infantry mission (only when the combat situation dictates the necessity); and CAPSTONE civil affairs and PSYOP units support conventional operations.

B. The following are considerations by battlefield operating system (BOS) for the employment of SOF during the decisive combat operations phase of contingency operations:

1. Intelligence.

- * Special reconnaissance (SR) provides the CINC, JTF, JSOTF or ARFOR commander the ability to conduct reconnaissance collection in denied areas at the operational. It is time sensitive information and provides the commander the ability to monitor and/or disrupt the enemy commanders scheme of maneuver. For example, SR teams can locate and, if augmented with low-level voice intercept (LLVI) personnel

from the SF military intelligence company, can monitor critical C3 nodes.

- * CA assets can provide timely intelligence to the commander through interviews and conversations with refugees.

2. Maneuver.

- * SF and Ranger units, under the command and control of SOF headquarters, can conduct direct action (DA) missions against high value targets (i.e. critical C3 nodes).
- * Audio-visual PSYOP teams can aid the tactical commanders deception plan.
- * Improves host nation military forces through training and advisory programs.

3. Fire Support.

- * SR or DA teams can conduct terminal guidance operations using laser target designators or beacons for high performance aircraft against high value targets.
- * SR or DA teams can provide non-attributable target

acquisition and adjustment of deep fires in the deep battle area.

- * PSYOP elements provide nonlethal fire support to the conventional force by:
 - ** Conducting information programs which undermine the enemy commander's morale and confidence.
 - ** Conducting information programs which serve as an emotional and mental detriment to the enemy soldiers morale.
 - ** Conducting information programs which undermine the enemy's political and social programs/institutions in a denied area.
 - ** Conducting information programs which define US foreign policy/objectives to friendly personnel.
 - ** Conducting information programs which reinforce host nation economic and social programs.
 - ** SOCCE interfaces with fire control elements to prevent fratricides of SOF elements operating in the

conventional unit's area of influence.

- ** Conduct training to improve host nation (HN) fire support assets.

4. Mobility/ Countermobility/ Survivability.

- * Successful DA & SR missions contribute to the survivability of conventional forces.
- * Establish escape and evasion nets which can assist in the recovery of downed USAF pilots through assisted escape and evasion net.
- * SFODAs can assist in civil-military operations by training and supervising HN forces in vertical and horizontal construction methods/projects.

5. Air Defense.

- * Conduct counter air operations at enemy airfields or against enemy ADA sites (ADA MANPAD, 50 caliber sniper rifle).
- * Conduct training to improve quality of host nation ADA.

- * Participates in JSEAD operations by reporting/ neutralizing enemy ADA sites.

6. Combat Service Support.

- * Conduct training to improve quality of host nation CSS.
- * Assist in the identification of HN facilities.
- * Assist in the coordination HN support.
- * CA elements assist in the implementation of population resource control measures.
- * CA teams can strengthen the existing HN technocratic infrastructure.
- * CA teams can reinforce HN credibility and capability through CND activities (Medical, Dental, Preventive Medicine, Veterinary, Engineer).
- * Assist in refugee control operations.

7. Command, Control, & Communications.

- * SFODAs can remain under the command and control of a SOF Headquarters (JSOTF, SFOB, FOB or AOB) and through the establishment of liaison element (SOCCE) with the conventional headquarters, may provide time sensitive information directly to a conventional headquarters.
- * SFODAs can remain under the command and control of a SOF headquarters and report all information through the JSOTF to the JTF for further dissemination (the least efficient method).
- * The SFODAs may be placed in General Support (GS) or Direct Support (DS) to a conventional headquarters. In this method, a SF liaison element (SOCCE) is collocated with the supported unit for interface between the SFODA and the conventional headquarters. This facilitates the flow of timely intelligence to the conventional headquarters while the SFODA remains responsive to the SOF HQ.
- * The fourth method of C3 is placing the SFODA OPCON to the ground maneuver commander in whose area of operation the SFODA is working. If the SFODA is in denied territory, a SF liaison element (SOCCE) is collocated with the unit receiving OPCON to facilitate communications.

Section III: Light-Heavy, Heavy-Light Planning Considerations.

A. Heavy units have characteristics, battlefield focus capabilities, and limitations, which are different from the dismounted battalion. For that reason, mutual planning, development of orders, rehearsals, and coordination between respective commanders and staffs must take place to capitalize on relative advantages and offset weaknesses. Nothing should be taken for granted during the planning and coordination processes. Specific planning considerations include:

1. Intelligence.

- a. Jointly develop reconnaissance and surveillance plans.

- b. Take advantage of light unit's night vision and dismounted reconnaissance capabilities, and the heavy unit's thermal imagery devices and long-range night vision devices.

- c. Light forces provide counter-reconnaissance patrolling in rugged or densely vegetated terrain.

2. Maneuver.

a. Ensure that the heavy unit is assigned terrain commensurate with its capabilities, within the confines of the area of operations.

b. When planning any operation involving linkup with a light force, the operations must be timed to avoid leaving the light force in a vulnerable position. Always consider the mobility disparity between heavy and light units.

c. Both units' direct and indirect fires should mutually support each other. The heavy unit will often use its long-range direct fires to provide suppression and overwatch fires for the light force.

d. The heavy force should provide long-range antiarmor fires for the light force.

3. Fire support.

a. Jointly develop target lists and fire support execution matrixes. Fire support execution should be centralized under brigade control.

b. Jointly develop restrictive fire control measures and ensure that they are universally understood.

4. Mobility/ Countermobility/ Survivability.

a. Develop a common obstacle plan.

b. Coordinate counterattack routes through restrictive terrain and obstacles with the light force. Use engineers and infantry to clear chokepoints and obstacles.

c. Consider weapons' range disparities when handing over obstacles.

5. Command and Control.

a. To gain surprise and reduce vulnerability, the dismounted units often choose to conduct offensive operations during limited visibility.

b. For CSS reasons, OPCON is the proper command relationship when a heavy unit is subordinate to a light unit for three days or longer. For shorter duration missions, attachment may be appropriate. Attachment is also appropriate when employing a light unit with a heavy one. During contingency operations the command relationship is attached with the heavy task force bringing a full combat support, and combat service support slice.

c. Exchange permanent liaison officers.

d. Jointly conduct the planning process, and coordinate the development of orders and overlays.

e. Exchange codes, recognition signals, and CEOIs.

f. Provide guides when moving heavy force vehicles through areas controlled by the light forces.

6. Combat Service Support.

a. Request assistance from the heavy unit with moving ammunition forward.

b. Locations of patient collection points and battalion aid stations should be preplanned and disseminated on overlays. Collocation of aid stations should be considered if operationally feasible.

c. Ensure that necessary logistics support for the heavy unit is not interrupted.

7. Communications.

a. Efficient operations of the task force depends upon satisfactory communications between all elements. All available means of

communication are employed and parallel channels provided whenever possible. Communication officers of the units concerned must coordinate all details of the operations at the earliest possible time in order that proper instructions may be issued and any necessary changes be effected. Special message codes and meanings for pyrotechnic and panel signals should be arranged prior to each operations. Communication may be established by liaison or messenger, wire, radio, visual signals, or by direct communication between the infantryman and the heavy force crews.

b. Communication between heavy tank/BFV and light infantry units may be effected by liaison agent, radio, messenger, and wire. When time permits and the situation warrants, a wire line may be run from the light unit to the heavy unit. Command posts of light and heavy force units should be collocated.

(1) A heavy company/team will normally operate on the battalion command net (FM) in addition to its own internal net. It may also operate on the Operations and Intelligence net and the Administration and Logistics net, depending on the command relationship (OPCON or attached).

(2) Heavy platoons will operate in the command net of the controlling headquarters. In some situations, individual tanks/BFVs and light infantrymen may communicate using borrowed squad radios. Wire also may be used for direct contact between the light infantry commander

outside the tank/BFV and the tank/BFV commander, to handle target designation, warning regarding immediate threats to be met, mines to be avoided, etc.⁶ Communication may also be maintained by personal contact, as necessary, between infantry squad and heavy platoon leaders and company commander, or by use of runners.

c. Use of visual signals. Pyrotechnics may be employed to convey a limited number of prearranged messages, such as requests for support and lifting artillery fire or to announce arrival on an objective. Colored smoke may be used to designate friendly units, boundaries, or targets for artillery or air support. Signal flags and the various types of panels may also be used for a limited number of signals and to mark lanes or landing zones on beaches. Arm and hand signals may be improvised. The effective use of visual signals depends to a large extent upon complete dissemination of their meanings to all concerned. In order to avoid confusion with enemy signals, there should also be an exact understanding between members of the light-heavy team as to the direction of fire of tracer or pyrotechnic signals when used to indicate targets.⁷

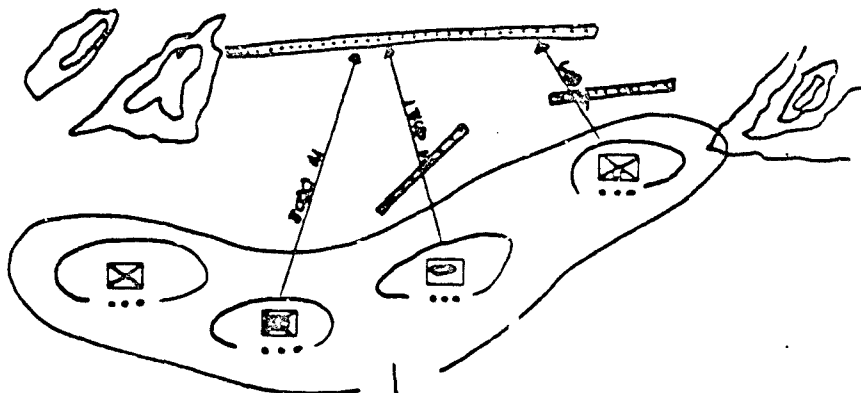
B. The following is a list of considerations, facts or options for commanders when employing mixed forces (light-heavy or heavy-light).

- * Consolidate anti-armor (AA) platoons at brigade, attach to battalion to mass along mechanized avenues of approach into the MBA or for flank protection.
- * Light battalions conduct infiltration to disrupt/destroy enemy C², CS, and CSS.
- * Light forces can air assault deep to destroy C², CS, and CSS nodes.
- * Terrain allocation during planning must match the unit, light = restrictive, and heavy = open.
- * Synchronize actions of stay behind/infiltrating forces to support the MBA fight.
- * Employment of light forces in restrictive terrain enhances survivability and mobility. Avoid open terrain with long range fields of fire and observation.
- * Heavy forces normally attempt to achieve the following force ratios or better: defense 1:3, attack 3:1, and counterattack 1:1 (if from flank or rear).
- * Movement of forces must be planned based upon the

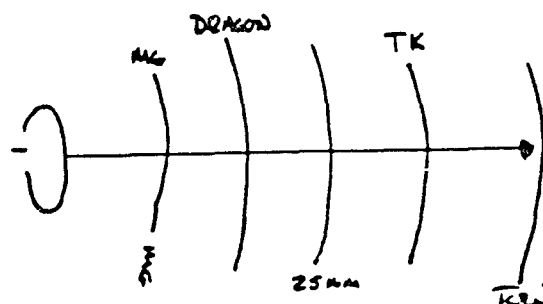
trafficability of the heaviest vehicle and the slowest moving unit. A tank company can move unopposed 10 km in 20 minutes going 30 kph while a light platoon walking will move 2-4 kph.

- * Heavy reserves should be located to maximize mobility; options include on main avenues of approach, near hubs of road net works or between avenues of approach, or on near mobility corridors.
- * Array forces so heavy fights heavy and light fights light.
 - ** Heavy forces provide depth in sector, mobility, requires trafficable terrain, and concentrates fire through unit maneuver.
 - ** Light forces maximize stealth, restrictive terrain, and seizes choke points.
- * Counterattack when there is a window of opportunity. Use stay behind forces to attack second echelon while counterattacking to destroy first echelon. (Second echelon may also be attacked by attack helicopters, FA, and CAS.)
- * Light forces usually infiltrate by squad.

- * Light force mobility can be increased by riding on the outside of heavy force vehicles. Reduces speed of heavy force to about 20 mph. One squad can ride on one vehicle. The light leader should be placed in the loader's (tank) or gunner's (Bradley) position and given a CVC helmet for communication. The lead heavy company should not carry light forces. Practice dismount battle drills.
- * Attack the enemy with several weapons systems at once by positioning of forces using a single trigger line.



- * Use separate trigger lines to create opportunities for other weapons systems.



- ** Open with TOW fire to turn enemy away from fire and to create flank shots for tanks.
 - ** TOW, 25mm, Tank and Dragon fire force enemy to dismount.
 - ** Machine guns fire on dismounted forces.
- * Maintain the mobility of the heavy force. Assign specific missions for the heavy force in priority to support the scheme of maneuver.
- * Heavy forces provide light forces a kinetic energy tank killing capability (armor piercing, fin stabilized discarding, SABOT [APFSDS or SABOT]). SABOT should not be shot over head of unprotected friendly forces.
- * Light forces are mobile in restrictive terrain.
- * Light forces can be bypassed and then used to attack soft skin CS, CSS and C² units.
- * Light forces lack mobility to defend in depth unless used in restrictive terrain or augmented with transportation assets.

- * When light forces are assigned missions requiring foot movement (stay behind, displace in restrictive terrain), the following should be considered: weather, terrain, march discipline, acclimatization, water consumption and availability, individual soldier load.
- * Light infantry employed in restrictive terrain can shape the battle field and allow a large heavy reserve.
- * Light infantry when supported with light helicopter assets possess a faster tactical mobility than heavy forces.
- * Light forces depend on image intensification night vision devices. Heavy force sights are thermal. Combined, force capability is enhanced.
- * Difference in mobility between light and heavy forces require synchronization. Slow the heavy force or augment the mobility of the light force. Plan operations for execution when the slowest force is prepared.
- * When not in contact heavy forces can be maneuvered to the fight. The unit out of contact is a reserve.

C. The armor/mechanized infantry platoon is the basic tactical unit in an armor/mechanized infantry company and battalion. Coordination with other elements of the combined arms team is best enhanced by keeping all tanks/BFVs under the control of the platoon leader. Depending on the factors of METT-T, control of the platoon's fire power and target effect is optimized under the heavy platoon leader. Tank platoons should not be broken up into individual tanks and assigned separate missions except in special circumstances (urban terrain).

Optimum employment of the heavy platoon is under control of its parent company, under the operational control of an infantry company, or attached to an infantry battalion.

When a heavy platoon is attached to an infantry battalion, it is usually best to retain control of the platoon at battalion level rather than further attaching the platoon to an infantry company. This permits the battalion commander to commit his heavy force in any of his company areas. However, if the situation dictates the platoon's attachment to a company, the rapid reaction capability of the heavy platoon allows the platoon to quickly revert to battalion control if the situation should change. However, any sub-attachment should be of the entire platoon, not of individual tanks/BFVs. The battalion or company should communicate with the heavy platoon by radio, the infantry platoon can communicate with it by radio, arm and hand signals, pyrotechnics and if available an

external telephone mounted on the rear of each tanks.⁸

D. Unlike the platoon, the heavy company normally contains an attached logistical element from its parent battalion. Hence, the heavy company should be the focal point for the support of heavy platoons, whether they be attached to infantry battalions or remain under their parent company. The company services, refuels, and recovers the platoon tanks. The company commander acts as advisor to both brigade and battalion commanders. Open and frequent consultation with this armor commander will aid mutual understanding, which in turn aids control.

When cross-attaching infantry, the heavy company is capable of accepting almost all of the missions assigned to infantry companies. The only difference between heavy and light company teams should then be that the infantry team contains organic indirect fire support. An infantry company with a heavy platoon attached can block an armor avenue of approach just as readily as can a heavy company with a platoon of infantry attached. The heavy company has a greater reach in the attack, whereas in the light-heavy company, the heavy forces are slowed to the pace of the infantry. In the heavy team, the infantry platoon will ride mounted on the combat vehicles, thus giving the foot infantry the mobility of the

heavy unit.⁹

Section IV: Offensive Operations.

The purpose of offensive operations is to destroy the enemy and his ability to resist by defeating the integrity of his defensive system. This is accomplished by driving into his rear to destroy artillery, command and control systems, command posts, reserves, and logistic support. Offensive operations may also be conducted to secure key or decisive terrain, deceive or isolate units, gain information, or spoil an enemy's offensive preparation.

Light-heavy brigades conduct offensive operations in support of joint operations as part of a division offensive or defensive operation, independently as a contingency force, or internally within the context of defensive or offensive operations.

Offensive operations are characterized by momentum, initiative on the part of subordinate commanders, and the ability to make shifts in the main effort to take advantage of opportunities and rapid penetrations. The

primary missions for brigades and battalions conducting offensive operations are movement to contact, hasty attack, and the deliberate attack.

This section will discuss by battlefield operating system the integration and synchronization of the light-heavy brigade and its task organized battalions in the conduct of the offense. Three types of offensive actions will be discussed. These are the movement to contact, hasty attack and deliberate attack. These missions will be discussed from the perspective of a light-heavy brigade, a light-heavy battalion and a heavy-light battalion.

The following are potential tasks which a heavy unit may conduct in support of light-heavy offensive operations:

- * Movement to contact.
- ** Reserve.
- ** Overwatch likely enemy AA.
- ** Provide attack by fire.
- ** Provide mutual supporting fires.

- ** Direct fire suppression on prepared defenses.
- ** Overwatch and/or assist in reducing obstacles.
- ** Covering force/ advance guard.
- ** Counterattack forces.
- * Attack.
 - ** Suppressive fires.
 - ** Isolate objective.
 - ** Counterattack forces.
 - ** Provide initial hasty defense during consolidation.
 - ** Attack by fire.
 - ** Deceive enemy concerning main effort.
 - ** Overwatch counterattack routes on objective.
 - ** Assist in assault breach.

** Reserve/exploitation force.

** Lead force.

Potential tasks which a light force may conduct in support of heavy-light offensive operations are:

* Movement to contact.

** Clear and secure restricted areas.

** Air assault to fix or create weakness.

** Mout.

** Deception.

* Attack.

** Search and attack.

** Reconnaissance.

** Ambush.

- ** Suppress antitank weapons.
- ** Deception.
- ** Infiltration.
- ** Breach obstacles.
- ** Clear enemy that defends obstacles.
- ** Security.
- ** Air assault to seize objectives.
- ** Mout.
- ** Fix enemy force to facilitate heavy force maneuver.
- ** Follow and support.

A. Framework of the Battlefield.

In conducting an attack, units make use of five complimentary

elements—deep, close, rear, security and reserve. These five offensive framework elements are synchronized into one offensive operation.

1. Deep.

The primary focus of brigade and battalion deep operations is to interdict by delaying, disrupting or directing enemy reserves by sealing off the unit's objective area. Brigade and battalion deep operations are conducted as an economy of force operation that allows for the destruction or blocking of uncommitted forces that could influence the outcome of friendly close offensive operations. As the close fight moves forward, the unit must continually shift the forces of its deep operations to fighting enemy units in successive defense positions. The means of conducting deep operations include: field artillery, attack helicopters, infiltrated or air assaulted infantry against soft targets, BAI, maneuver units and EW. Deep operations are primarily targeted against enemy artillery and counterattack forces that contribute to the success of the enemy's attack.

The successful conduct of deep operations begins by placing specific intelligence needs on the intelligence system. Once identified, the timing of the deep attack must be synchronized to the close fight. The focus of deep operations must continually shift to support changes in the main effort.

2. Close.

Close operations consist of penetrating a defending force, fixing the forces adjacent to the main effort, and committing exploiting forces.

In preparing for the attack, the commander determines how he will attack through zone in each phase of the operation and how he must stage his units through forward assembly areas to the objective. The normal sequence is:

- * Move from rear to forward assembly areas (or from staging areas to tactical assembly areas).
- * Deploy and initiate the attack through defending units.
- * Fight through the assigned zones between the LD and the objective.

Once planned, these requirements undergo continuous modification. The unit prepares contingencies that allow it to shift from one type of offensive operation to another with minimal delay. Lateral routes are planned between attacking units to provide the commander the capability to shift the main effort from one unit to another.

Deception operations are targeted against enemy battalion and

company commanders. False, misleading, friendly activity, smoke and IEW are synchronized to portray a picture that allows the unit to obtain surprise as to the timing, location and strength of the pending attack. The deception plan reinforces what the enemy commander perceives about the disposition and intentions of the attack.

Attacking units direct and control close operations using direct and indirect fires and maneuver against the defending battalions. Air support, electronic warfare, attack helicopters, combat engineers, air defense weapons, and artillery units assist the maneuver battalions in the destruction of enemy defending battalions. The brigade supports the battalion fight by providing it combat, combat support, and combat service support. The brigade weights the main effort with additional tactical units, engineers, ADA, CSS and artillery fires. It ensures that every available weapon system is directed towards supporting the main effort.

a. The Main Attack.

Close operations normally involve a main and supporting attack. The main attack seizes the units principle objective or destroy the designated enemy force. Main attacks are characterized by mass concentrations of fire coupled with rapid violent and bold advances and dedicated combat support, and combat service support. The momentum of the attack is maintained until the mission is accomplished.

The main effort is assigned to only one unit. All other elements including those that are assigned secondary efforts, support the unit that is assigned the main effort. If the unit assigned the main effort encounters unexpected difficulties or a supporting attack meets with unexpected success, the commander shifts the concentration of forces, fires and required logistic resources. Supporting units must be prepared to shift the main effort.

Once launched, enemy actions, minor changes in the situation or lack of success of other elements should not divert forces from the main attack. Approval to bypass enemy units rests with the next brigade commander. Once the bypass is approved, the unit leaves forces in contact with the bypassed enemy and reports this to adjacent and follow and support units.

b. The Supporting Attack.

The supporting attacks exist to assist the main attack. The mission of the supporting attack force must state clearly how it is to render this assistance, by limited objective attacks, seizing critical terrain, fixing the enemy in position, preventing enemy disengagement, deceiving him as to the location of the main attack, and forcing commitment of enemy reserves early or at an indecisive point.

Units conducting attacks are provided less resources than

units conducting the main attack. Initial strong fire support to supporting fires permits them to support a secondary attack against a limited objective without interfering with the subsequent or simultaneous support of the main attack. Demonstrations ruses accomplish some of the above purposes where insufficient force is available to launch strong supporting attacks.

c. Follow and Support Force.

The follow and support force is not a reserve. It is a committed force which is provided the appropriate amount of combat, combat support, and combat service support forces to perform its mission. Commanders of the leading forces and the follow and support forces maintain close liaison, however, the actions of the follow and support forces are controlled by the commander designating the force. Follow and support forces must have mobility equal to or greater than the leading forces, have tactical integrity, and have flexibility to act on their own initiative consistent with the higher force commander's intent.

Potential tasks for units with follow and support missions are:

- * Widen or secure the shoulder of a penetration.
- * Secure key terrain.

- * Block movement of enemy reinforcement.
- * Guard prisoners and key areas and installations.
- * Attack counterattacking forces.
- * Open and secure lines of communication.
- * Expand area of exploitation.
- * Control refugees.
- * Destroy bypassed units.
- * Relieve supported units that have halted to contain enemy forces.

3. Rear.

The primary mission of rear operation forces is to retain the unit's freedom of maneuver and continuity of operations through anticipating critical requirements for classes III and V and prepare push packages to sustain the momentum of attack.

4. Reconnaissance and Security Operations.

Reconnaissance provides fresh information on the terrain to reduce unknowns and facilitate the rapid execution of the main or supporting attacks; and information on enemy dispositions to help guide attacking forces against enemy weaknesses. Information received, must be evaluated, interpreted and disseminated by the main CP.

The commander must always watch his flanks and rear. The flanks are secured by flank guards through surveillance and fire and maneuver, and through the effective use of obstacles. Early warning of impending counterattacks and collection of timely and accurate information is essential to security.

5. Reserve.

The primary mission of the reserve in the attack is to exploit success to ensure mission accomplishment, not to reinforce failure. The size of the reserve is determined by the commander during his estimate of the situation. In general, the more vague the situation the larger the reserve. The reserve should possess mobility and be positioned to:

- * Permit rapid movement to point of employment.
- * Weight the main attack.

- * Provide security to unoccupied terrain.

- * Provide maximum protection from hostile observation.

Once committed, the reserve becomes the units main effort. Once the reserve is committed, another reserve must be designated. This can be accomplished by reserve missions in the initial order.

B. Forms of Maneuver.

The basic forms of maneuver are envelopment, turning movement, infiltration, penetration and frontal attack. The brigade conducts frontal attacks, penetrations, envelopments and infiltrations, and participates as an element of a larger force conducting a turning movement.

1. Envelopment.

The envelopment uses supporting attacks to hold the enemy in position, while maneuvering to attack his flank(s), to roll it up or secure objectives in his rear that cut his lines of communications and routes of escape. The envelopment forces the enemy to fight in two or more directions simultaneously. An envelopment may be conducted on a

single flank or on both flanks (double envelopment).

An envelopment requires the enemy force to have an assailable flank(s) and the enveloping force to have mobility, firepower and surprise. Minimum control measures are assigned to the enveloping forces. The use of zone of action, checkpoints and an axis of advance will simplify movement and coordination with an adjacent supporting attack and will clarify the commanders scheme of manauver. An aerial envelopment requires that air parity, designation of air axis, JSEAD and suppressive fires be available or that enemy dispositions do not interfere materially with the flight of a large number of aircraft (Figure 4-3-1).

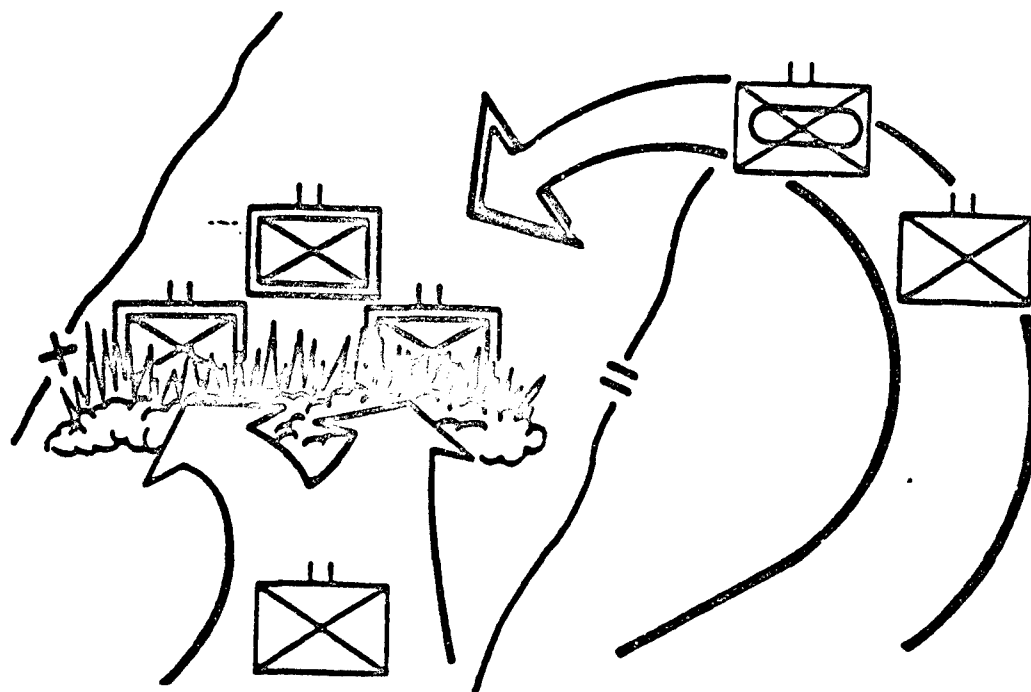


FIGURE 4-3-1. BRIGADE ENVELOPMENT.

2. Penetration.

In a penetration, the brigade or battalion attacks through the enemy's principle defensive position to divide the enemy force and allow it to be defeated in detail. It is planned and executed in three stages: rupturing the enemy's defensive position, widening the gap, and overrunning or securing objectives that will destroy the continuity of the enemy's defense. A penetration is conducted when the enemy is overextended, weak spots in his defense are detected, terrain and observation is favorable, strong fire support is available, or an assailable flank is not available. It requires a massing of forces and fires against a narrow section of the enemy defense before he can move forces to block or halt the attack. As the penetration progresses, bypassed forces are reduced by follow and support forces.

The penetration is normally preceded by artillery preparation delivered to demoralize and weaken the defender, to limit his ability to react against the attack, and to cover the movement of attacking units. Following the fire preparation, the assault units attack through a narrow sector of the enemy's defensive position. Supporting attacks can neutralize enemy fire and support and command facilities by infiltration and secure terrain that blocks the movement of reserves against the main attack or promotes continuous movement of the attack. As the attack progresses, units of the supporting attack, or the follow and support force secure the flanks of the main attack or widen the gap by breaking

through other enemy defense. The reserve exploits success or assists the main attack (Figure 4-3-2).

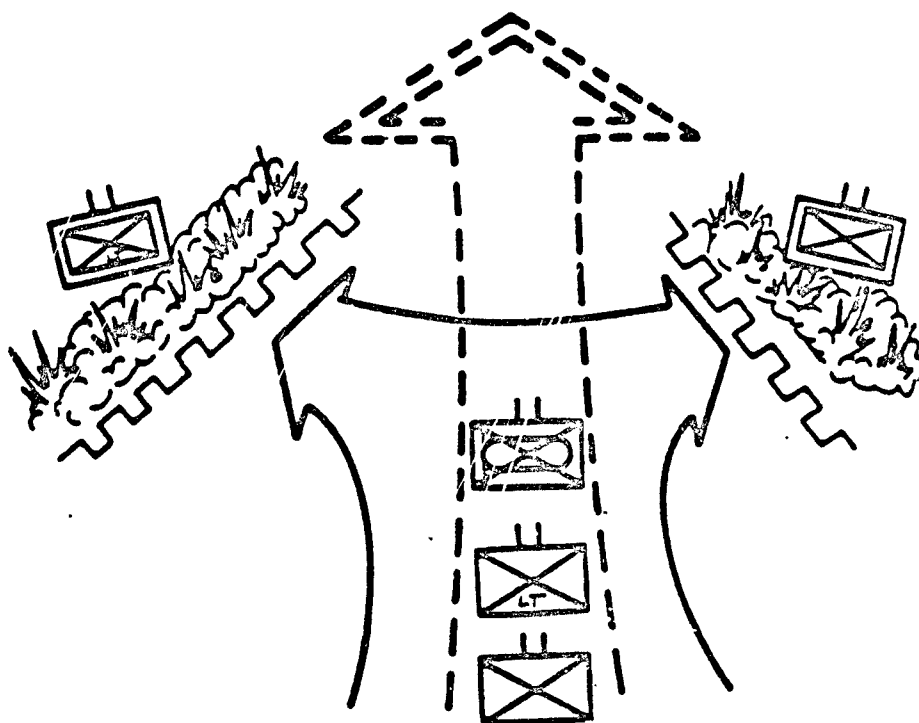


FIGURE 4-3-2. BRIGADE PENETRATION.

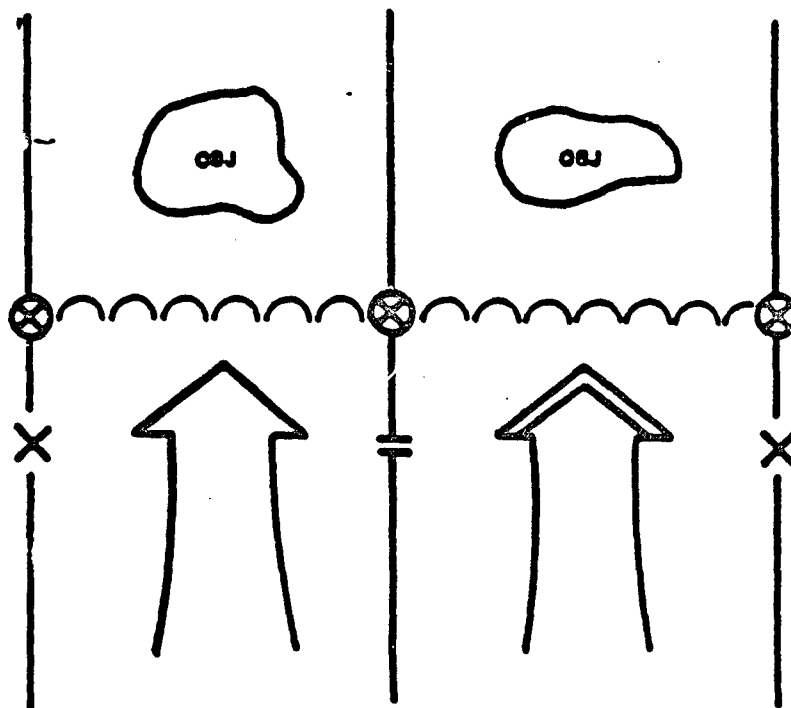


FIGURE 4-3-3. BRIGADE FRONTAL ATTACK.

3. Frontal Attack.

The frontal attack is the least desirable form of maneuver. It is employed to overrun, destroy or capture a weaker enemy in position or to fix an enemy force in position to support an envelopment or

penetration. The frontal attack strikes along the enemy's entire front within the zones of the attacking brigade. The frontal attack should only be used against a weak or disorganized enemy; when the situation is not fully developed; when the attacker has overwhelming combat power; when the time and situation require immediate reaction to enemy action; or when the mission is to fix the enemy position, deceive him or assist the main attack.

The reserve in a frontal attack allows the commander to influence the attack through reinforcement or by ensuring or exploiting success. It is positioned to weight the main effort (Figure 4-3-3).

4. Infiltration.

Infiltration is the covert movement of all or part of the attacking force through enemy lines to an objective in the rear. It is a form of maneuver normally used in conjunction with and to support other forms of maneuver.

The movement and assembly of forces by stealth among enemy positions is a slow operation. Light infantry units are best suited for infiltration operations. Tank, mechanized, and motorized units can conduct deeper infiltration by taking advantage of faulty enemy disposition, gaps created in enemy obstacles without enemy knowledge and by diversionary attacks.

Planning for infiltration must be detailed and coordinated closely into the overall plan of attack. Deviation from plans to infiltrate is difficult to coordinate once movement has begun. Linkage plans or plans to extract the force must also be prepared.

Within the area of infiltration, the controlling headquarters designates an area of operation that supports infiltration by stealth. Infiltration is most feasible during limited visibility, over rough terrain, through areas unoccupied by the enemy or areas not covered by observation and fire. These conditions allow the undetected movement of small elements.

Infiltration requires extensive reconnaissance that identifies the enemy disposition across the area to be infiltrated, identifies infiltration lanes, locates assault positions, identifies enemy weaknesses and observes enemy activity. Based on reconnaissance, friendly forces organize into appropriate sized elements and move through and around enemy positions using single or multiple lanes. These lanes, in conjunction with coded designation of infiltrating groups and their probable sequence of movement, checkpoints and phase lines provide a means of reporting the progress of the operation and of coordinating movement of infiltrating teams. Other measures include assault positions objectives and rally points (Figure 4-3-4).

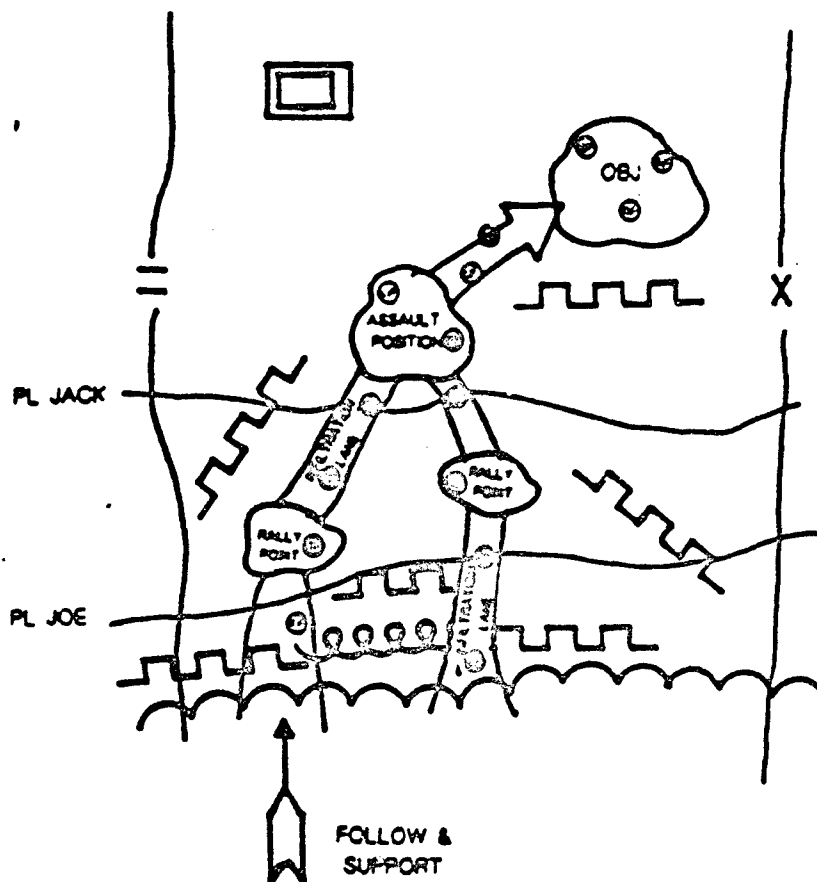


FIGURE 4-3-4. INFILTRATION.

C. Formation.

The commander selects the initial attack formation that offers the best chance of success. Key considerations for the choice are maintaining

mutual support between maneuver elements and avoiding the piecemeal commitment of forces.

1. Brigade/Battalion in Column.

A unit in column may be used when:

- * The terrain or enemy defenses require the unit to attack on a narrow front.
- * At night or during limited visibility.
- * To provide depth.
- * To retain the initiative and permit flexibility.
- * To provide depth and security on the flanks.
- * To keep the following battalions in position to move through or around the lead element to maintain the momentum of the attack.

This formation only allows a unit to concentrate a part of its fires to the front, its subject to piecemeal commitment and slower deployment to the front (Figure 4-3-5).

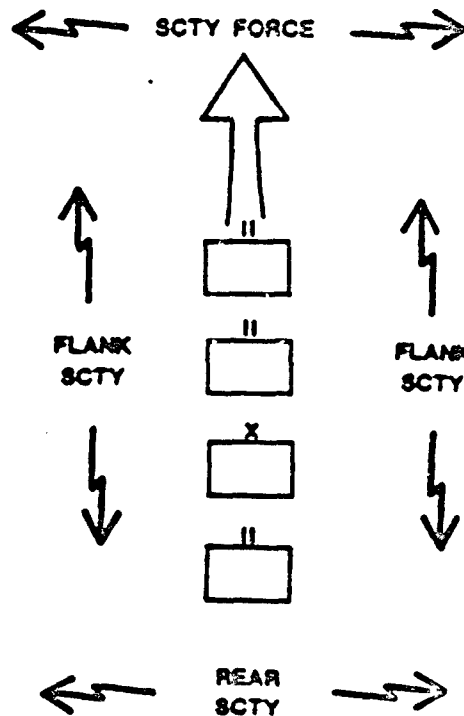


FIGURE 4-3-5. BRIGADE IN COLUMN.

2. Brigade/Battalion on line (with or without reserve).

A brigade or battalion conducts an attack on line with or without a reserve. A unit on line with a reserve consists of two or more subordinate units on line with the remaining force designated as the reserve. The reserve provides flexibility and security. It is a major force that can exploit the success or assume the mission of a leading battalion (Figure 4-3-6). This formation is used when:

- * Great depth in the attack is not necessary.

- * Known enemy positions are so thin and weak that they can be ruptured by an attack on a broad front.

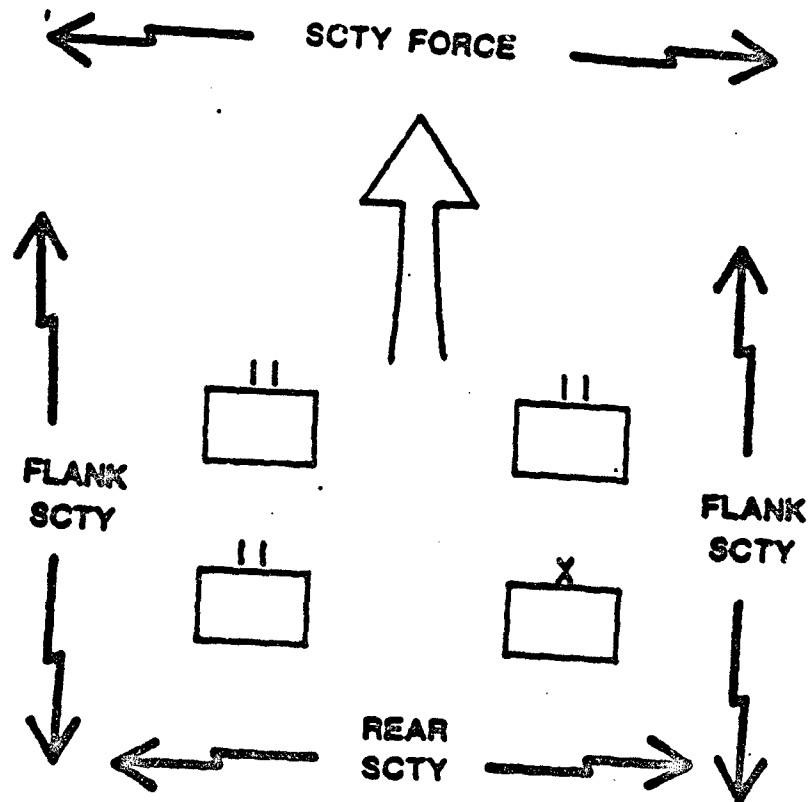


FIGURE 4-3-6. BRIGADE/ BATTALION ON LINE WITH A RESERVE.

A unit may attack on line without a reserve when the requirement for speed outweighs that of security. Reconnaissance is necessary. The

enemy situation must not dictate a reserve and requires sufficient gaps or weak spots in the enemy's defense (Figure 4-3-7).

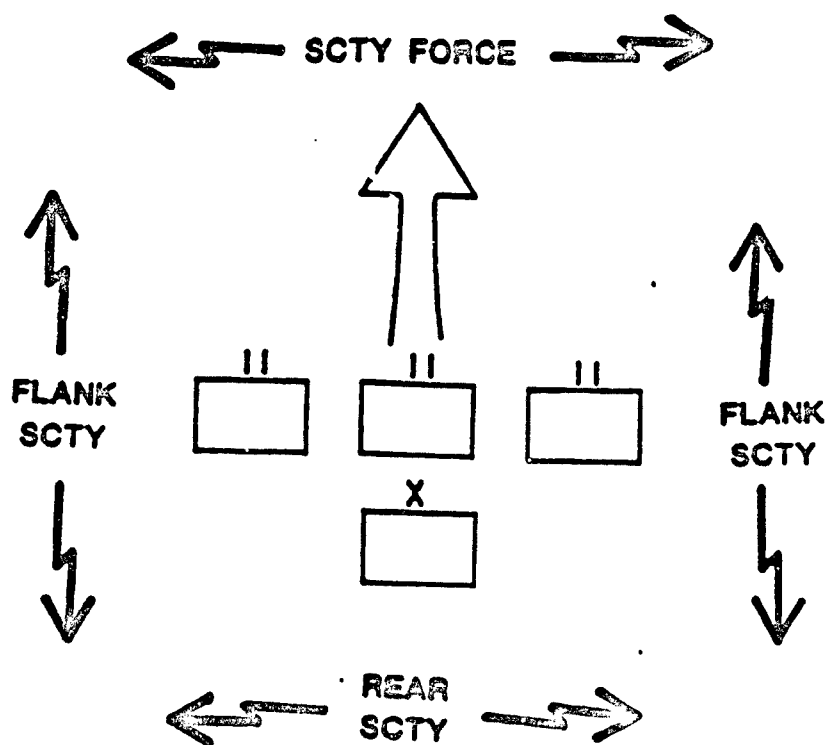


FIGURE 4-3-7. BRIGADE/BATTALION ON LINE WITHOUT A RESERVE.

Brigade/battalion in echelon is used when advancing in a wide zone, when a flank threat exits, or when the envelopment of an enemy force is planned. This formation provides good flank security and depth, but flexibility and ability to develop combat power to the front is limited (Figure 4-3-8).

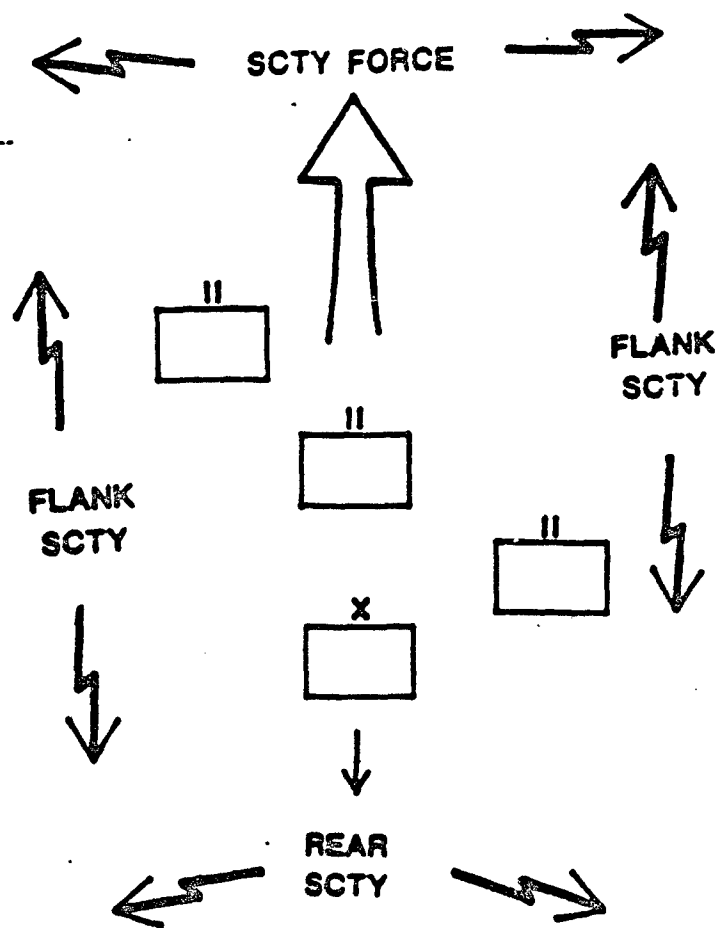


FIGURE 4-3-8. BRIGADE/BATTALION IN ECHELON.

D. Execution.

During execution it is absolutely essential that the momentum of the attack be maintained. Halts on the intermediate objectives are normally avoided since they slow the attack and greatly increase the units vulnerability. The force must close on the objective at top speed in the shortest possible time with maximum combat power. Throughout the attack, units closely follow supporting fires. As the attack progresses, the commander shifts the weight of the attack to take advantage of tactical success to avoid known or suspected enemy strength or to take advantage of more favorable routes of approach as they are discovered.

E. The Assault.

The assault begins as units deploy in the assault position and continue their move to the objective. Companies and platoon employ fire and movements. The key is to close quickly on the objective before the enemy can react. Direct fire weapons from overwatch units must be integrated with indirect fire weapons. These weapon systems lift and shift their fires as fires are masked.

F. Consolidation and Reorganization.

As soon as the objective is seized, the supporting weapons adjust to those concentrations designed to protect the consolidation and reorganization. During consolidation, the unit ensures the enemy is eliminated from the objective; a hasty defense is formed, security is established, fires are planned, reconnaissance is conducted and preparation for follow-on missions occur. Personnel are briefed on the status of the command and follow-on missions.

Simultaneously, reorganization occurs. Key personnel who have been wounded or killed are replaced; companies reconstituted; unit reports are rendered; evacuation of wounded, killed, POW and equipment occurs; supplies, ammunition and equipment are redistributed in units or, if time permits, through LOGPACs; and command and control facilities relocate.

G. Movement to Contact/Hasty Attack.

A brigade conducts a movement to contact to gain or regain contact with the enemy and do it in a way that risks the smallest part of the force while the remainder is available to immediately respond when contact is made. Once contact is made, the commander develops the situation further, maneuvers and concentrates forces and attacks.

The primary consideration in preparation for a movement to contact is anticipating actions during the movement and the requirement for maneuver

and fire support when contact is made. The positioning of units in the formation is dictated by the mission, particularly the anticipated employment of maneuver units. Combat service support units are integrated in the movement of tactical units to provide support but not to interfere with the tactical movements.

The covering force of the advance guard develops the enemy situation and prevents the unnecessary delay of the main body. The advance guard fights through small concentrations of enemy forces and ensures the main body can deploy uninterrupted into attack formations. Its task is organized to secure the uninterrupted movement of the main body. Combat support consists of engineers, intelligence collection assets and artillery augment the advance guard.

The flank and rear guards protect the main body from ground observation and surprise attack. These forces are strong enough to defeat small enemy forces or to delay a strong enemy attack long enough to allow the main body to deploy. The flank guards travel on routes parallel to the routes of the main body. These elements move by continuous march or alternate bounds to occupy key terrain on the flanks of the main body. The rear guard follows the main body.

The main body is organized and deployed to be capable of hasty attack or hasty defense. March dispositions of the main body must permit maximum flexibility of maneuver during movement and when contact with the enemy

force has been established (Figure 4-3-9 and 4-3-10).

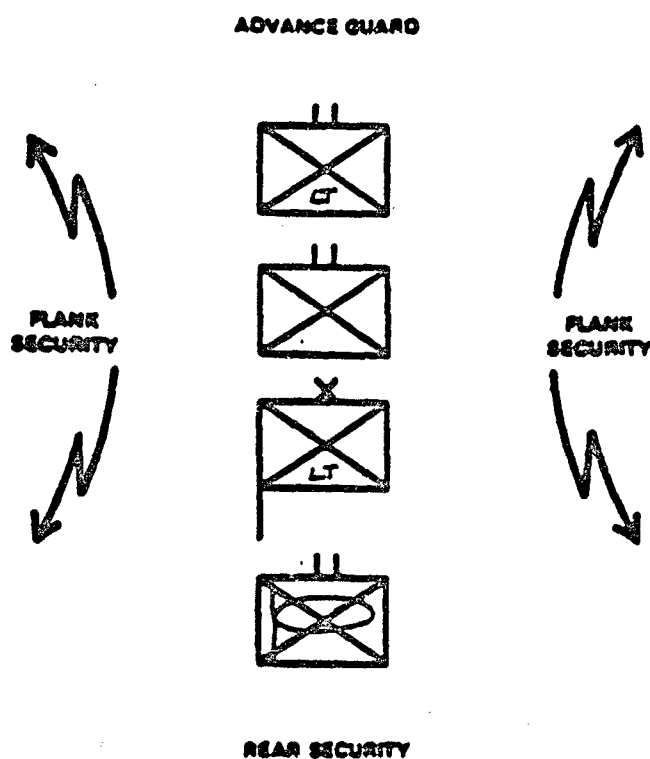


FIGURE 4-3-9. BRIGADE/BATTALION CONTRACTING MOVEMENT
TO CONTACT ON A SINGLE AXIS.

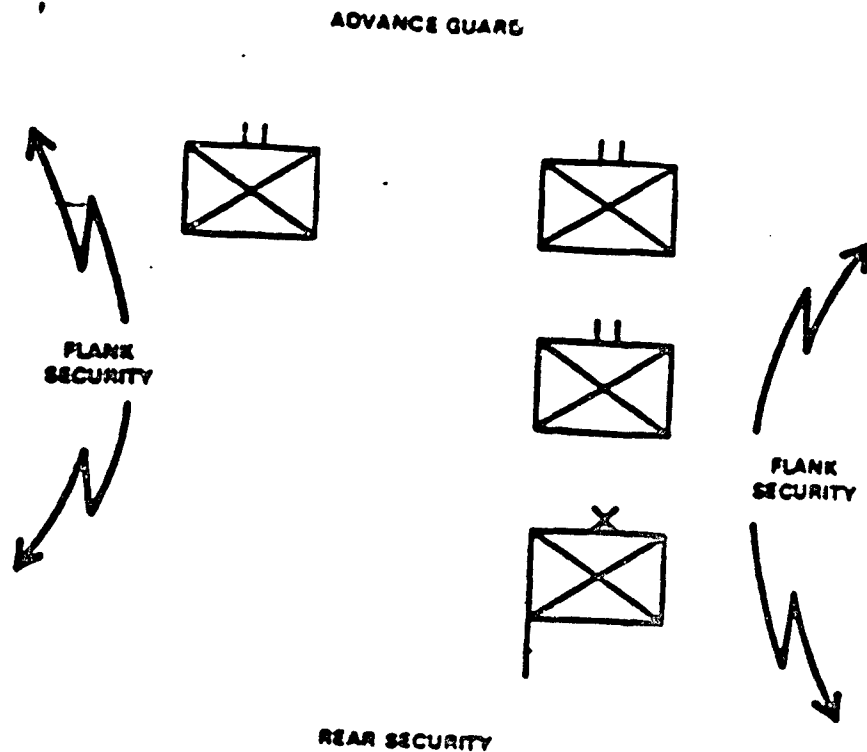


FIGURE 4-3-10. FRIGADE/PATIALION CONDUCTING MOVEMENT
TO CONTACT ON MULTIPLE AXES

The movement to contact is marked by rapid aggressive action. When contact is made by the lead element of the advance guard, the enemy situation is rapidly developed. Within its capability, the advance guard destroys forces that can interfere with the movement of the main body and contains those it cannot destroy. Elements of the main body may be committed to reduce pockets of resistance contained or bypassed by the

advance guard. Elements of the advance guard assigned containment missions are relieved as rapidly as possible and rejoin the covering force to avoid dissipating the advance guard's strength. The commander monitors the progress of the leading and engaged combat units and anticipates their requirements. When resistance is encountered, he commits forces from the main body to maintain the momentum of the advance.

A movement to contact ends with the occupation of an objective without enemy contact or, when contact is made, in a series of meeting engagements and/or hasty attack. In an encounter with a moving enemy force, aggressive action should take place without hesitation. The decision to attack, bypass, or defend must be made rapidly. This decision is governed by the commander's intent. Oral fragmentary orders and rehearsed battle drills are the rule, but in the absence of orders, subordinate commanders should not hesitate to take the appropriate action. The decision to commit the entire force is the commander's.

A movement to contact evolves into a meeting engagement when elements of the unit engage static or moving enemy force about which it has inadequate intelligence. It is a decision point where the commander decides to retain the initiative and attack or declines to attack and takes up the defense. The action ceases to be an engagement when the enemy situation is developed and subsequent planned and coordinated actions are undertaken.

The basic principle in conducting a meeting engagement is to seize and retain the initiative. The enemy situation is developed vigorously and aggressively. The identification and envelopment of an assailable flank will usually disclose the enemy's disposition more rapidly than with frontal attacks and give more opportunity for tactical surprise and decisive results.

A meeting engagement can quickly turn into a hasty attack. The hasty attack is characterized by limited planning time and usually involves verbal FRAGOs from already established graphics. The initial advantage belongs to the force that first deploys into combat formation and assaults the enemy by fire.

There are three phases of a hasty attack: advance of the reconnaissance and security elements; deployment and assault by the security forces; and assault by the main body. Forms of maneuver applicable to a hasty attack usually involve:

- * Attack of one flank while part of the enemy force is fixed from the front.
- * Attack of both flanks with a frontal fixing attack.
- * Frontal attack.

When the hasty attack is not succeeding, the commander may elect to establish a hasty defense on key terrain until a greater number of maneuver and artillery units can be brought to bear on the enemy in another hasty or deliberate attack.

1. Intelligence.

During the movement to contact phase it is likely that little enemy information will be available. Therefore the primary mission of the IEW assets will be towards detecting and locating threat forces early. In order to "shape" the battlefield for the commander, IEW assets will attempt to locate and identify targets, and to identify enemy intentions. Through this effort IEW assets will play a significant role in providing the task force with early warning on possible enemy actions.

As in all phases of the operation the IPB process will serve as the key for identifying key areas of the battlefield to be surveilled. These in turn will serve as the foundation for named areas of interest (NAIs) which will guide the efforts of the IEW systems. Long range collection and surveillance will be a primary function of the division and higher; while the brigade task force will concentrate initially on the close battle and locating the enemy.

During the movement to contact the voice collection teams will move forward with the covering force in an attempt to intercept enemy

transmissions and derive possible enemy intentions and locations. Some voice collection teams are stationary and operational, while others are moving to the next location. Jamming will be limited due to the availability of ECM systems, the limited availability of targets, and the requirement to preserve OPSEC during the movement to contact. Voice collection teams should operate on the operations net to ensure rapid response to all transmitted combat information; while technical data and information is passed to the platoon operations center (POC) via the platoon net. Motorized intercept/direction finding systems (TRQ-32V2) are employed in more static positions to conduct direction finding operations. If available, the Quick Fix II can complement the ground based collection teams and is well suited for intercept, direction finding, and ECM missions.

The GSRs should move with the covering force and the advance and flank guard elements. Like the voice collection assets they provide continuous support through alternating bounds, positioning on dominant terrain. GSRs can be effectively employed on the flanks which minimizes the electronic signature of the force.

HUMINT assets operate well forward of the moving task force. The LRSU teams are inserted along the movement to contact route to observe enemy movements and other activities. Interrogators move with and support the covering force and advance guard. While EPWs will be minimal until contact is made, the interrogation teams can support through the

interrogation of available refugees, line crossers and other noncombatants. As EPWs are captured, interrogation teams conduct hasty screening operations and interrogate for information of immediate tactical value.

2. Maneuver.

a. Light-Heavy Brigade.

The brigade normally conducts a movement to contact on either a single or multiple axes. A single axis is used for ease of control or when terrain permits movement on only one axis. The disadvantages are that it takes longer to deploy, increases column length, and permits the enemy to achieve maximum delay with minimum force.

Multiple axes are normally preferable because they allow greater flank security and mutual support forces can deploy more quickly from multiple axes and can present multiple threats to the enemy. A disadvantage is that command and control is complicated by having two separate axis's.

In a light-heavy brigade movement to contact, heavy forces can be employed as the covering force/advance guard when there is open terrain and the expected enemy is mounted. The heavy task force should be able to defeat a regimental advance guard in a meeting engagement.

If there are likely mounted avenues of approach on the flank or flanks, heavy forces can be employed as the flank guard to overwatch these avenues of approach. The heavy task force can either defeat an enemy force or delay it while the remainder of the brigade reorients to the direction of the attack.

The heavy task force is also suited to be the brigade main body. In this role, the heavy battalion can quickly move to where enemy contact has been made and attack by fire, provide mutual supporting fire for the light infantry task force(s), or provide direct fire suppression on prepared enemy defenses in support of the light force attack. If an obstacle is encountered, the heavy force can position itself to provide overwatch for the breaching force or assist in the reduction of the obstacle.

Finally, the heavy force can be given the mission of the brigade reserve when METT-T dictates a reserve with mobility and firepower.

In Figure 4-3-11, the brigade commander decides that the restrictive terrain in OBJs LIGHT and ASSAULT are key. Securing these as intermediate objectives will ensure the brigade main body (heavy task force) will not have to deploy prematurely. By establishing the time lines of the enemy attack, it is estimated that the brigade could encounter an enemy regimental advance

guard in the open terrain west of OBJ LIGHT. Based on these considerations, the brigade commander develops the following course of action.

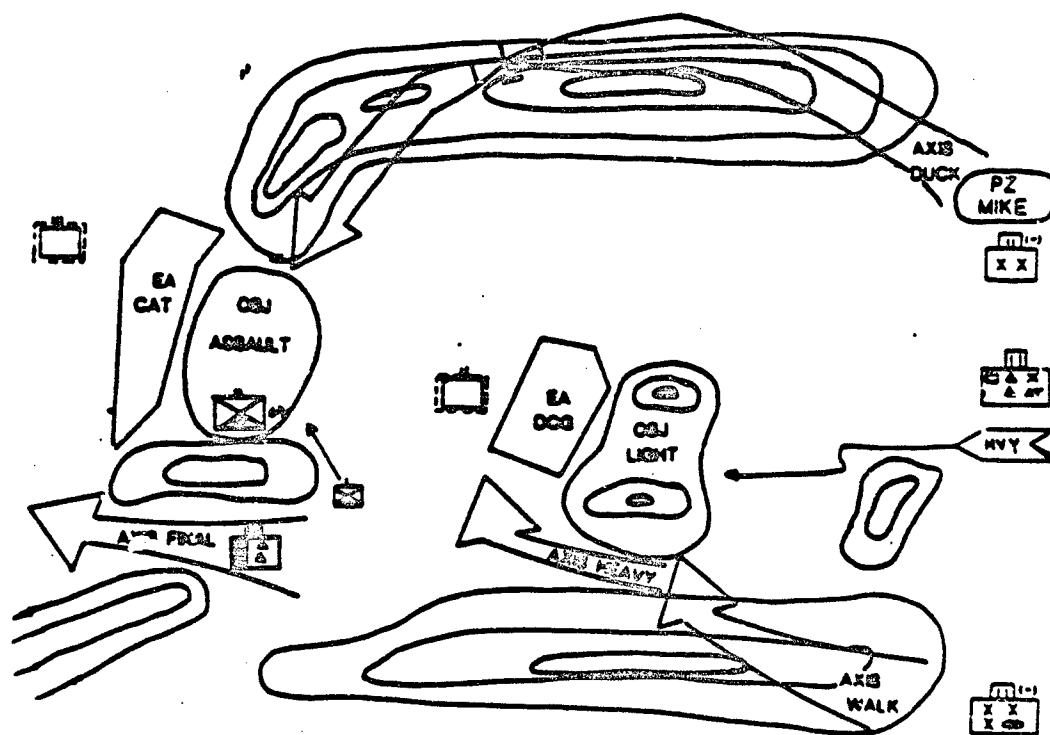


FIGURE 4-3-11. LIGHT-HEAVY EDE MOVEMENT TO CONTACT.

To control the key terrain in OBJ LIGHT he assigns one of his light battalions to conduct a movement to contact orienting on AXIS WALK to secure OBJ LIGHT. Achieving this objective will allow the heavy task force to quickly pass through and be in an advantageous position to fight any enemy force west of OBJ LIGHT. EA DOG has been identified to focus brigade assets, to include the attack helicopters, against a potential moving target.

The brigade then uses the two assault helicopter companies to air assault the light battalion being held in reserve on PZ MIKE to seize OBJ ASSAULT. This battalion's mission is to seize the key terrain and to disrupt and slow the advancement of an enemy force west of OBJ ASSAULT to create a window for the heavy task force to destroy enemy forces east of OBJ ASSAULT; then to secure OBJ ASSAULT to allow the heavy task force to quickly pass through and be in an advantageous position to fight enemy forces west of OBJ ASSAULT. EA CAT has been identified to focus brigade assets to include attack helicopters to support the light battalion on OBJ ASSAULT. Initially, the brigade reserve is the light battalion on PZ PICK. Upon its commitment, the light task force on OBJ LIGHT becomes the brigade reserve and OBJ LIGHT becomes PZ LIGHT. The lead element is the brigade advance guard; the aviation task force attack helicopters are the brigade

counterattack force. The assault helicopter companies are available for further air assault operations.

Each maneuver task force provides its own front, flank and rear guard. The brigade commander may attach a light company to the heavy task force. This unit can be used to secure restricted terrain in route or along AXIS HEAVY or FINAL. The light company must be augmented with transportation of comparable mobility to the heavy force (i.e. ride on tanks, inside BFV, or follow behind in wheeled vehicles).

b. Light-Heavy Battalion Task Force.

A typical light-heavy battalion task force will consist of three light infantry companies and one BFV-equipped mechanized infantry company/team. The light-heavy battalion task force conducting a movement to contact is assigned an axis of advance or zone of action and a march objective to orient movement. The force may be required to seize, hold, or occupy a march objective. The battalion is normally organized into three primary components: advance guard, flank and rear guards, and main body.

The heavy team may be employed pure or may cross attach platoons to form light-heavy or heavy-light company/teams. If the terrain is open and enemy forces are likely to be mounted, the heavy team should be employed pure as the advance guard. If terrain is broken (restrictive

and open), a heavy-light or light-heavy team may be formed as the advance guard. In open terrain, the heavy forces lead with light forces mounted either on tanks, in BFs, or following in trucks. In restrictive terrain, heavy forces move by alternating bounds to positions from which they can support by fire.

As the flank or rear guard, heavy forces can overwatch likely mounted enemy avenues of approach into the flanks and rear of the light task force. These forces can either defeat an enemy force or delay it while the remainder of the task force reorients to the direction of the attack.

As the main body or part of a main body, heavy forces may be employed to attack by fire, provide mutual supporting fire, or direct fire suppression on prepared enemy defenses in support of the light infantry forces assault. Heavy forces can also be employed to add shock, surprise, firepower, and mobility as the nucleus of the counterattack force or the reserve.

In Figure 4-3-12, the light-heavy infantry task force commander is the lead element of the brigade movement to contact. The task force is required to seize and secure intermediate OBJ LIGHT to facilitate the passage of the heavy task force west of OBJ LIGHT. To accomplish this, a mechanized infantry company team is placed OPCON to the light force and

A hand-drawn tactical map of the island of Iwo Jima, showing various military positions and movements. The map includes labels for 'EA CAT', 'CSJ ASSAULT', 'EA DOG', 'CSJ LIGHT', 'CSJ DARK', 'P2 MIKE', 'AXIS CLUCK', 'AXIS FINAL', 'AXIS HEAVY', 'AXIS WALK', and 'NAVY'. It also features symbols for tanks, aircraft, and other military units.

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The light task force commander initiates the task force movement to contact by moving his heavy team to OBJ DARK, where it will overwatch and, if necessary, provide supporting fire to the remainder of the task force moving along AXIS WALK to seize and secure OBJ LIGHT. During the occupation of OBJ LIGHT by the task force, the mechanized infantry company team is brought forward to OBJ LIGHT and positioned to provide mutual supporting fires and long range antiarmor fires for the light force.

c. Heavy-Light Battalion Task Force.

Like the light battalion task force, the heavy battalion task force is organized and conducts a movement to contact on assigned axis of advance or zone of action with a march objective to orient movement on.

The light team may be employed pure or cross-attached to form heavy-light or light-heavy teams. If the terrain is restrictive, and the enemy forces are likely to be dismounted, the light forces should be employed as the advance guard to secure and clear the area. If the terrain is broken (restricted and open), a heavy-light or light-heavy team is formed as the advance guard. In open terrain, the heavy forces lead with the light forces mounted either on tanks, in BFVs, or follow in wheeled vehicles. In restrictive terrain, heavy forces move by bounds to positions where they can overwatch and if required, support by fire as the

light infantry secures and clears the restricted area.

If the heavy task force has restricted terrain on a flank and air assault helicopters are available, the light forces can be employed as a flank guard. Platoons of the light force bound forward onto dominant terrain to overwatch avenues of approach on the flanks of the heavy task force. These forces either defeat an enemy force or delay it while the remainder of the heavy task force reorients to defeat this threat.

As part of the main body, the light force must be mounted on tanks, BFVs, or wheeled vehicles. These elements can then be utilized during a hasty attack to clear and secure objectives, isolate and/or reduce pockets of resistance until relieved, provide assistance to engineers breaching obstacles, or to protect the task force flanks.

Light forces should not be task organized to a heavy force unless augmented by transportation. Riding on the outside or inside of combat vehicles will need rehearsals and battle drills. If combat vehicles are used to carry the light force, they should be in the center of the task force to enhance the light survivability. Using support platoon assets will reduce the turn around time for resupply operations; bottom line all assets available should be used to transport the light soldiers and dismount them as close as possible to their objective.

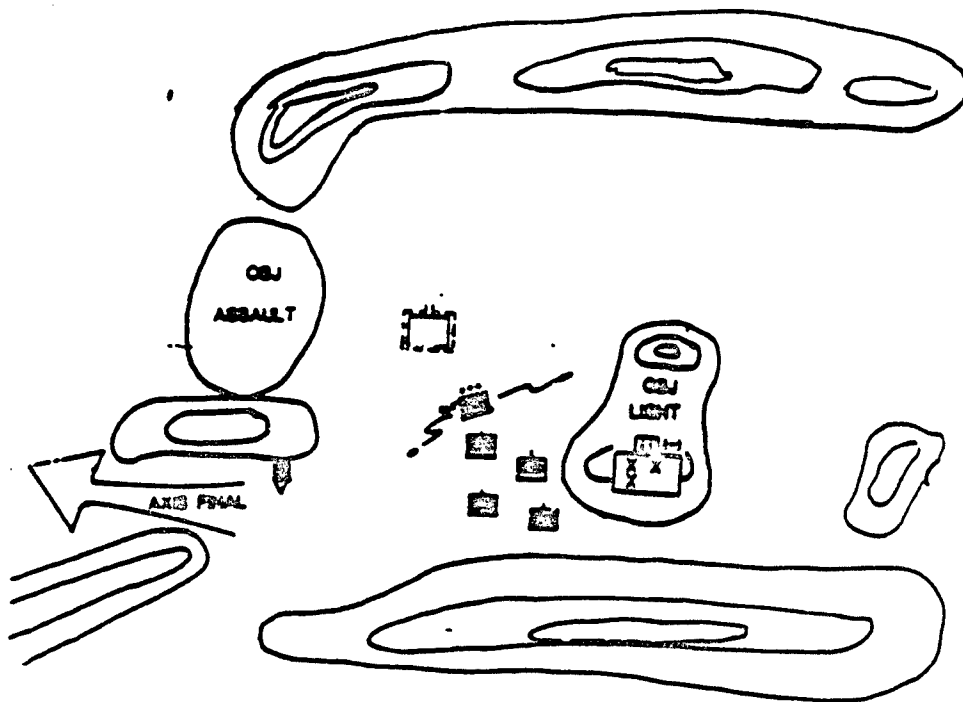


FIGURE 4-3-13. HEAVY-LIGHT TASK FORCE MOVEMENT TO CONTACT.

In Figure 4-3-13, the heavy task force of the brigade passes to the south of OBJ LIGHT. The situation permitting, the mechanized company team which assisted the light infantry task force in seizing and securing OBJ LIGHT is reattached to the heavy task force and falls into trail as the battalion reserve. The task force commander has deployed the scout platoon 3-5 km ahead of the task force conducting a zone recon. The task force moves in a diamond formation with a tank company heading, a mech company on each flank and a tank company in the rear. The

mechanized company/team on the left flank is carrying a light infantry company.

Before the operation, the mechanized and light infantry company conducts training and establishes a personnel load plan for each vehicle. Battle drills are developed for mounting and dismounting. Leaders ride on the same vehicle. Mech company commanders BFV carries the light company commander and his HQ section. Platoons carry platoons.) The mortar and antiarmor sections require special considerations for deployment to be in a position to provide rapid support.

The scouts make initial contact with the unknown enemy force. The task force commander deploys the lead tank company and two mech companies into positions to attack by fire. The mech/light infantry team is directed to move as far west as possible staying within 2 km of the western-most company/ team. Here the light infantry company dismounts and moves forward to Checkpoint 2 to secure the restrictive terrain as the mech company becomes the task force reserve.

The task force destroys the enemy force and reorganizes, the light company secures Checkpoint 2 and links up with the light battalion on OBJ ASSAULT. The light company is then in position to assist the heavy task force through AXIS FINAL to continue the

movement to contact.

3. Fire Support.

Planning fires in support of a movement to contact is fundamentally no different for light and heavy forces. Combined light-heavy operations have several subtle considerations that are critical to effective support of maneuver forces. These include movement and positioning techniques for indirect fire assets, fire support coordination measures, and special mission and tactical considerations.

a. Movement of Indirect Fire Assets:

The key to providing effective fires in support of light-heavy forces is to keep fire support assets in range, and responsive to the maneuver force. During offensive operations these tasks become more difficult because of the extended range of operations and the differing movement speeds. The natural tendency to centralize control because of the increased number of maneuver variables must be resisted. Centralizing control of fire support assets reduces flexibility essential to offensive fire support needs.

Movement of fire support assets must be closely monitored and tied to the movement of the maneuver forces. The difference in displacement times of various indirect fire systems must be factored into

the fire support scheme of maneuver. A 105mm towed artillery battery can displace, move, and emplace much faster than a 155mm towed battery over the same terrain and distance. Light artillery and mortars can also be displaced and moved with a variety of utility or cargo helicopters. The towed M198 howitzer can only be air moved by a CH47D (C model with 50% fuel, can also move it but cannot transport crew or ammunition). Movement of other assets such as Q36/37 counterfire radars and survey control must also be integrated into the scheme of maneuver.

Without regard to whether movement of indirect fire assets is by ground or air, a general rule is to begin movement of firing assets when the ground force being supported reaches one half the maximum range of the weapon. To provide continuous fire support a technique frequently employed is to echelon firing elements. For artillery this means a battery will move one firing platoon forward while maintaining the other platoons ability to respond to calls for fire. After the first platoon is in position and ready to fire, the second platoon is then moved to its new firing position. This technique is applicable for the movement of batteries by battalion, as well as for the movement of mortar sections and Q36/37 radars.

A technique for the movement of weapons systems of differing ranges is to position those with the greatest range, and frequently the greater displacement/emplacement times, as far forward as possible. This allows systems with less range to move further forward under the

protective fires of the larger weapons system.

Echelonment of light artillery battalions by battery is recommended, and movement of medium GS/GSR batteries by platoon give the maneuver force the greatest probability of maintaining the continuous availability of fires. An effective technique for the movement of mortars is to echelon battalion mortars by section behind the lead company. This provides continuous and immediate fires to the most likely maneuver force to come into contact with enemy forces first.

An effective technique for the positioning of artillery assets is to find positions off to the flanks of maneuver element. Firing units should be positioned such that the capabilities of the systems are maximized. Medium artillery firing units with Copperhead and dual purpose ICM munitions should be placed to attack targets requiring those special munitions. Light artillery has a significantly greater rate of fire than medium artillery. These firing elements should be positioned to attack targets requiring rapid suppression or firing of multiple aim points (large area targets requiring zone and sweep fire missions).

b. Fire Support Coordination:

During offensive operations control and clearance of fires becomes critical. Heavy and light units move at differing rates. Fire support personnel must constantly know where their own and adjacent

maneuver elements are located. Company FSOs must know where every squad and platoon is. The platoon locations must be maintained by the battalion FSO. The battalion FSE must continually update the brigade FSE with company locations throughout the entire movement to contact. Failure to clear fires significantly increases the risk of fratricide.

Fire control measures must be established to facilitate immediately responsive fire to elements in contact. This creates a risk to friendly forces. Knowing where friendly elements are at all times is essential for reducing the risks of fratricide.

A technique for ensuring fires are continuously available is to use a common fire net for all observers. As missions are received and assets are allocated to execute the missions, the observers can be directed to a specific net to complete the execution of the mission. Upon completion of the mission the observer returns to the common net. This requires the FSCoord to manage the net. The advantage to the maneuver commander is a greater probability for mission execution especially during periods in which firing elements may be moving. The FSCoord directs the observer to an active firing element rather than the observer relying on a habitual firing element to execute requests for fire.

c. Special Considerations:

During movement to contact, fires must be immediately

available to the maneuver force in contact. The most responsive fires are those from the mortars organic to the maneuver battalion and light infantry company. Mortars should be the first consideration for attacking targets encountered by the maneuver force. Although lacking the lethality of artillery munitions, mortars have a significantly greater volume of fires and can be used to suppress enemy forces until more lethal indirect fire assets can be brought to bear on the target.

Mortars possess an excellent smoke and illumination capability. This capability can be used to assist maneuver forces as they respond to enemy contact. Illumination can also be used effectively as an offensive weapon to mark targets for attack by aircraft or helicopters, and to impact on the night vision capability of enemy forces. Use of illumination must be well thought out and coordinated because of the potential impact on friendly maneuver forces using night vision devices.

A technique for providing additional immediate fires to a maneuver force is the assignment of a "dedicated battery" mission to an artillery battery. This mission reduces the flexibility of the field artillery battalion to mass fires. A "dedicated battery" is normally allocated to a specific maneuver element, normally the lead company/team. The battery commander becomes a liaison between the company/team and the firing battery. The battery responds to calls for fire directly from the company. Movement of the battery is normally done by platoon under the direction of the battery commander and the company/team commander. This

mission essentially makes the battery unavailable to respond to requests for fire from other units. A "dedicated battery" is not under the control of the FSCoord.

During offensive operations, firing elements can be assigned a mission of infiltrating or air assaulting past intermediate objectives of the maneuver force to provide deep fire support to an operation. Inherent in this mission is an increased risk of loss of the firing element. The maneuver force commander must weigh the potential loss of the asset against the advantage of providing fires at a decisive point on the battlefield. Consideration must also be given to the impact on other units of reducing the assets available to provide fires.

An effective technique for the employment of light artillery or mortars is the 2-gun raid. Two mortars or light howitzers with sufficient ammunition, communications, and fire direction capabilities can be air assaulted to attack a specific target beyond the range of other indirect fire assets. Normally this high risk mission is conducted to attack a specific high payoff target the maneuver commander believes can effect the outcome of his operation.

The field artillery battalion should contribute to the brigade intelligence effort. The intelligence gathering capabilities of the field artillery battalion provide the maneuver commander with a significantly enhanced ability to see and know the intentions of the

enemy. Maneuver units and FA units that do not share their gathered intelligence are preparing themselves for failure.

The commander of the maneuver force and the FSCoord must aggressively ensure that their respective staffs are passing and receiving vital combat information. The FA battalion should send estimates and combat information to the brigade. The maneuver S-2 should actively seek input from the FA battalion S-2. An added benefit of this cooperation is the second analysis of intelligence each organization provides the other.

When a FA battalion is controlling an AN/TPQ-36 radar, the battalion must give it appropriate guidance. This includes:

- * Cueing guidance. Commander's target criteria should be established to ensure that radars are on when enemy indirect fires are received. Friendly and hostile fire modes must be balanced. Commander's target criteria (stated on DA Form 5364-R) should specify sources, in priority, that have authority to cue the radar. These sources should be able to observe incoming fires and have the means to communicate with the radar. As a general rule, cue and radiate in bursts of 15 to 45 seconds. This allows the radar set to complete its clutter mapping and be illuminated long enough to acquire targets.

- * Radar locations. Radar positions should provide a screening crest of at least 10 but no more than 30 miles tunneling to absorb side lobes, and sufficient range beyond the FLOT to acquire enemy rounds on the ascending leg of their trajectory.
- * Orientation of radar search. Establish search azimuth and critical friendly zones. Orient radars towards templated enemy artillery positions, and narrow the search fan as much as possible to reduce the probability of detection.
- * Survivability constraints. The Soviet-bloc radar locating sets are ground-based line-of-sight systems that can acquire FIREFINDER. Soviet aerial platforms can also locate radars. The field artillery S-2 must determine if these enemy locating radar systems are part of the enemy's order of battle, and position target acquisition radars accordingly to minimize the risk of detection.

Surveys must be planned and closely supervised if the field artillery is to establish control on a common grid. The FA battalion must aggressively manage and supervise the survey plan to establish and

maintain survey control on a common grid within the zone of action of its supported unit. The survey plan must address:

- * Starting control. Each PADS unit must be initialized at the same location. If available the point should be a continuation from a known point established from a higher order survey.
- * Priority of work. If not clearly established and enforced by the FSCORD the limited survey assets of the battalion will be diverted to accomplish an unimportant or unintended task. Many FA battalions at the NTC have found their PADS teams relegated to leading a maneuver unit around the desert. Survey priorities vary with the operation, but should generally follow in this order:
 - ** Firing battery positions.
 - ** Weapons locating radar positions.
 - ** G/VLID positions.
 - ** Moving target locating and ground surveillance radar positions.

** Mortar positions.

** Target areas, including obstacles.

** Survey methods.

- * Battalions rely on PADS and hasty survey to the exclusion of conventional methods. There is nothing wrong with this, but even PADS has limitations and requires management. It has a maximum mission time, requires zero velocity checks, and must close out its surveys.

Position forward observers where they can see the portion of the battlefield for which they are responsible. The maneuver commander and FSO must determine the best locations for their forward observers. The most frequently overlooked element of the indirect fire system is location of the observer in relation to the targets. The task force and company/ team FSO's share responsibility for positioning their FO where they can see those targets on the battlefield they are responsible for shooting. If an FO's primary mission is to keep a particular obstacle under observation, he must be positioned to do so.

METT-T must also be a consideration in the positioning of observers. Observers and fire support officers must maintain effective

communications to deliver timely and accurate fires on the enemy. The digital equipment must have electronic line of sight in order to pass traffic. This must also be a consideration when positioning an observer.

Position observers where they can see their targets and maintain communications with their indirect fire assets.

d. Movement to Contact Techniques:

In a movement to contact there are several possible methods of providing indirect fire support to the maneuver force. Each option is METT-T dependent, and there is no single solution to every situation. The following are considerations:

- * To support an air assault a SEAD program is essential. Indirect fire elements must be positioned to provide fires along air corridors, as well as on and around the primary and alternate LZs for the assault force. Deep fires on the LZ could be accomplished by the infiltration or air assaulting mortars or light artillery beyond objectives.

- * If the forces assigned to seize an objective are likely to encounter significant dismounted forces along its axes of advance, consideration should be given to allocate a "dedicated battery" and priority of mortar fires to the lead company of the force.

* If the probability of enemy mortar and artillery fire is high consideration should be given to positioning FIREFINDER radar assets well forward to provide deep coverage. As each intermediate objective is seized mortars should be brought forward to the suitable positions near the objective to begin overwatch of the next portion of the movement to contact.

* Colt teams, and FIST-V's of the heavy force should be positioned in pairs on suitable terrain to overwatch the heavy force movement, and to attack high payoff targets with Copperhead munitions. Copperhead should be prestocked with a designated firing battery to facilitate rapid firing against sequential targets.

* Firing elements should be placed off primary maneuver axis. Use terrain to mask firing positions from visual observation by dismounted reconnaissance elements of the enemy force. This may require use of high angle artillery fires. Ensure observers are aware they are adjusting high angle fires. Move heavy artillery forward to support the heavy force after passing through the light force objectives. When the heavy artillery is in place move light artillery forward to positions providing blocking fires against enemy forces attempting to counterattack or reinforcing enemy positions.

* Fires should be planned to anticipate likely enemy engagement areas and obstacles. Plan fires to suppress potential enemy

battle positions, observation posts and fires on both sides of known enemy obstacles to breakup potential enemy ambush positions.

4. Mobility/ Countermobility/ Survivability.

Engineer operations to support a movement to contact are designed around the possible maneuver outcomes. General characteristics of the movement to contact are rapid development of the situation by an advance guard, and decisive actions by the main body to destroy the enemy. The possible outcomes of a movement to contact is a meeting engagement or attack on a defending enemy. In the meeting engagement, the main body destroys the enemy by either quickly establishing a hasty defense and decisively massing the force's fires or by rapidly transitioning to a hasty attack massing combat power at a weakness discovered by the advance guard. These outcomes drive engineer force allocation, task organization and scheme of engineer operations.

Implied missions for the engineer to consider are:

- * Support the lead element with the mobility assets and engineer reconnaissance necessary to develop the situation.
- * Provide in-stride breach capability to the main body to maintain its freedom to maneuver in response to the situation.

- * Be able to employ rapid obstacles in support of hasty engagement areas.
- * Retain flexibility of breaching assets to quickly transition from a in-stride breach to a deliberate breach.
- * Be able to quickly move material and equipment necessary to transition to a defense.

Heavy engineer augmentation provides the light engineer with both responsive flexibility to support rapid shifts in engineer mission and the equipment necessary to maintain the mobility of the heavy force. The bulk of the heavy engineer mobility assets are task organized to heavy maneuver forces to provide them with in-stride breaching capability. The heavy force should also be allocated sufficient breaching capability and engineer command and control to facilitate transition to a deliberate breach. Mechanized engineer platoons and scatterable mine systems are allocated to light-heavy forces to support rapid obstacle emplacement in hasty engagement areas. This is particularly critical to light forces committed to establishing a hasty defense since they require greater combat multiplication against an armor threat.

Wheeled engineer assets are used to augment light forces in several roles. Wheeled engineer may be used as rapid obstacle teams that move on the flank of the main body and execute flank obstacles triggered by predesignated NAIs. The wheeled engineers can be used to transport the material needed to transition to a hasty defense and begin emplacing preplanned obstacles during consolidation. Wheeled assets either from the wheeled engineer company or the mechanized company may be allocated to transport light engineers.

Light engineers are allocated to forces that may have to assault breach as part of a hasty attack. The assault force may be either a light or heavy based force. If the force is heavy based, enough light engineers must be allocated to breach the type and number of lanes required by the size heavy maneuver force. Light engineers supporting a heavy based force must be provided transportation, preferably under armor.

Light engineers always support committed light forces. They infiltrate with a light based advance guard as an engineer reconnaissance or assault breaching asset. Light engineers supporting light infantry committed to establishing a hasty defense to isolate portions of an attacking enemy, rely heavily on scatterable mine systems (artillery, helicopter, or truck delivered). Priority use of these assets must go to light engineers. Haul assets may be dedicated for scatterable mine reloads.

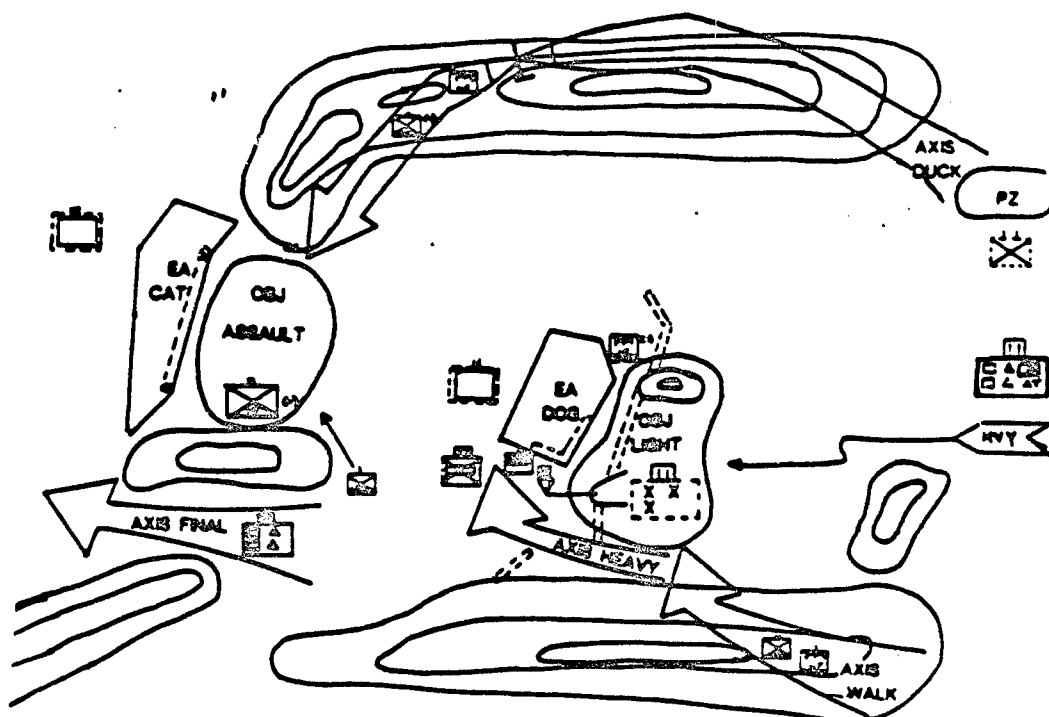


FIGURE 4-3-14. ENGINEER SUPPORT OF MOVEMENT TO CONTACT.

The movement to contact in Figure 4-3-14 serves to illustrate some of the possible uses of light, mechanized, and wheeled engineers to support a light-heavy brigade movement to contact. In this example, the brigade initially

uses a light battalion as an advance guard to develop the situation and secure the defiles at OBJ LIGHT. A light engineer company supports with priority to obstacle reconnaissance initially; the light engineer company is prepared to provide assault breaches and assist in the passage of the heavy task force if the defile is defended. Mechanized engineers are task organized with the heavy task force for in-stride breaching along AXIS HVY.

The mechanized engineers retain their organic GEMSS and VOLCANO to emplace mines in support of EA DOG. The heavy task force passes through OBJ LIGHT. Wheeled engineers hauling obstacle material behind the heavy task force link up with the light engineers at CP3 joined in EA DOG, a light battalion is air assaulted into OBJ ASSAULT and defends to disrupt follow on forces isolating EA DOG. A light engineer company supports the effort by emplacing obstacles on the main avenues of approach. A MOPMS is slingloaded with the assault. Two sorties of helicopter delivered VOLCANO are allocated. The light engineers set up the MOPMS for command execution and site the on order VOLCANO minefield in EA CAT. They mark the start and end points with VS-17 panels to assist the UH-60 in target identification and delivery. Employment of UH-60 VOLCANO minefield forward of friendly troops is contingent on the enemy situation.

5. Air Defense.

The air defense battery commander with the light brigade will be the air defense officer (ADO). He will be responsible for task organizing and coordinating all air defense fires,

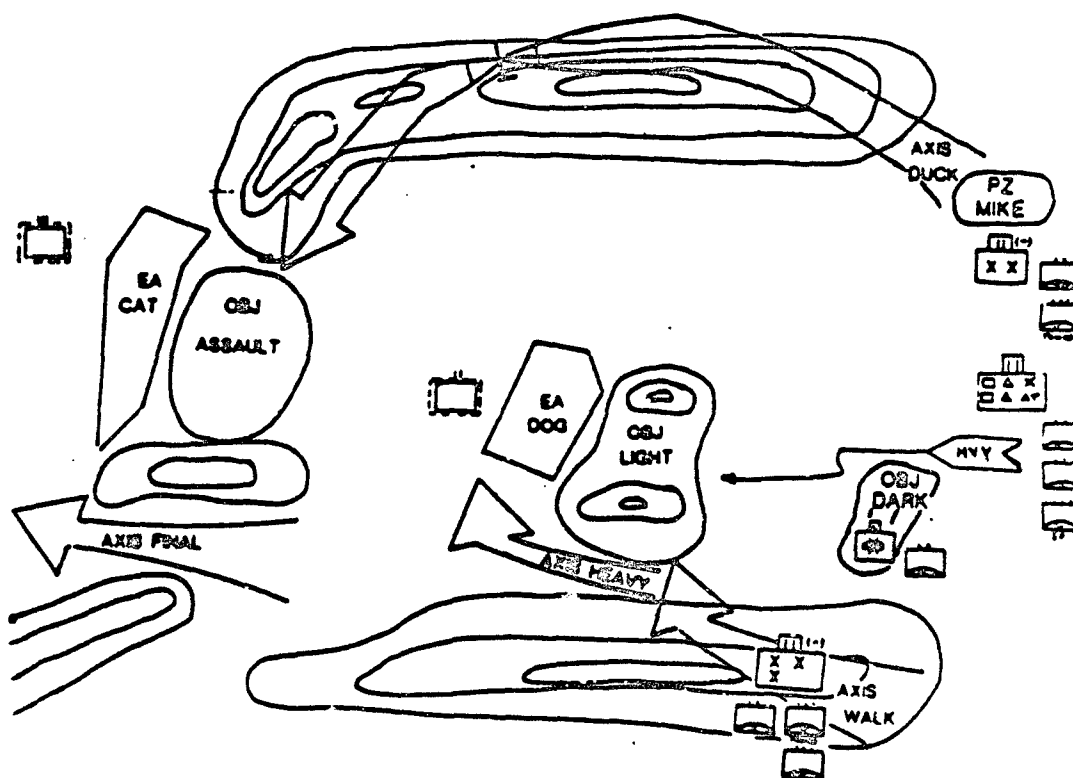


FIGURE 4-3-15. AIR DEFENSE SUPPORT OF MOVEMENT TO CONTACT.

The three forward area alerting radars (FAARs) will be GS to the brigade. The light infantry S-3 will be responsible for their positioning. The area of operation will be divided into two sectors with a FAAR broadcasting early warning in each sector. One FAAR will be moving at all times so that the three systems can conduct blinking techniques to keep from being detected. The FAAR broadcasting early warning will obtain a position that will be easy for all ADA systems in the sector to receive early morning.

The light battalion conducting a movement to contact on AXIS WALK will have two towed Vulcan platoons and one stinger section DS. The Vulcans will be in the route of march, the stingers will provide an umbrella coverage over the route. Once objective LIGHT is secured the ADA system will provide umbrella coverage over the objective. This also provides forward protection to the heavy task force that is located to the rear of objective LIGHT.

A towed Vulcan platoon and a stinger section will be DS to the air assault forces that secure OBJ ASSAULT. Once on the objective, the ADA systems will provide umbrella coverage over the objective. This also provides forward air defense protection for all forces behind objective assault.

One Stinger section will be DS to the heavy team on objective dark. This Stinger section will not only protect the team, it will also be in a position to provide incidental coverage to the unit moving on AXIS WALK. Additionally, this Stinger section will be able to protect the heavy task force as they begin their movement on AXIS HEAVY.

The heavy task force will have one self-propelled Vulcan platoon and two Stinger section in DS. The Vulcan will be dispersed among the convoy as it moves and the Stinger teams will protect the route of march. Incidental coverage from the Stinger teams with the heavy team will be integrated into the overall umbrella protection. As the heavy team joins the heavy task force, their ADA systems will be integrated into the overall ADA protection plan.

As the heavy task forces maneuver against the enemy forces, one Stinger section from the task force will be DS to the light company that will move to checkpoint 2 and link-up with the forces on OBJECTIVE ASSAULT. The air defense systems from both units will consolidate their coverage to provide maximum air protection.

Once the heavy task forces defeats the enemy and moves on axis final, all light ADA systems will return to the light units control. The heavy task force will continue with its organic ADA, one self-propelled Vulcan platoon, one Stinger section and one FAAR.

6. Combat Service Support.

a. Sustainment Considerations.

(1) Movement to contact:

- * Forces must be topped off before the move and take with them assets to sustain themselves. All organic resources of the brigade and the reinforced FAST move in the rear portion of the main body, protected by the rear guard. Plans must ensure CSS elements do not interfere with the tactical movement.
- * Only minimal resupply will be conducted during the move. The principal requirement will be for fuel, particularly for the heavy battalion. The brigade S4, heavy battalion S4, and the FSB LNO to the FASCO must prepare for forward tactical refueling.
- * Ammunition expenditures will be light.

- * Repair requirements will be less in most commodities, but relatively high for vehicles. The FAST may preplan unit maintenance collection point(s) along the route to reduce recovery requirements. These UMCPs should be positioned to facilitate evacuation to the proposed BSA site.
- * Field services are typically suspended during the move, except for graves registration.
- * Movement of the light and heavy troops must be carefully synchronized. FAST assets will be taxed moving organic equipment and sustaining supplies. Movement of light troops will require substantial support from the transportation assets augmenting the FAST.
- * Due to extended LOC's and the speed of the operations, rehearsals for support of the movement to contact are critical.
- * Consideration must be given to bypassed enemy elements. Support elements moving forward may require additional security and must have the latest intelligence on the enemy situation.

- * The brigade must ensure that visibility of basic loads is maintained, so that resupply of on hand stockage occurs before supplies decrease below 50 percent.
- * Battle damage assessment and repair assets must be postured to rapidly respond to any need.
- * Augmented FAST elements and field trains displace by echelon to provide a continuous base of support and prepare for a hasty attack.
- * Medical evacuation should be preplanned and include use of medical and nonmedical transportation assets; the coordination necessary to obtain augmentation medical personnel to provide enroute patient care on nonmedical vehicles; establishment of patient collection points, ambulance exchange points, and an ambulance shuttle system. The location and operational guidance should be disseminated on medical overlays.
- * The only way the battalion S4 can impact the success of the operation is to have LOGPACs built and positioned to come forward rapidly when required. Recovery assets should be positioned forward.

- * When light infantry battalions use air assault operations in the movement to contact, consideration must be given to aerial resupply of that force. Mortar ammunition may be the most critical item required based on anticipated high usage if the air assault element is positioned out of artillery range. The brigade S4 and FASCO must anticipate this requirement and prestock needed supplies to reduce resupply time.

(2) Hasty Attack:

(a) Light-heavy brigade.

- * The FASCO must plan to have the ATP positioned forward if resupply is feasible given the tactical situation. Ammunition expenditures will be relatively high.
- * Fuel assets should also be positioned forward whenever possible. Captured fuel and any locally available bulk or packaged Class III should be utilized to support the force.
- * Plan primary and alternate supply routes.

- * Attach the maintenance support team from the heavy FSB to the heavy battalion.
- * Maximize use of controlled exchange and cannibalization to keep as many weapon systems in the battle as possible.
- * Feed MKEs.
- * Maximize use of captured or locally available vehicles.

(b) Battalion Considerations.

- * Field trains should be prepared to move quickly with the FAST.
- * EDAR teams must be postured to rapidly return weapon systems to operational status.
- * Recovery and evacuation assets are positioned to maximize recovery of downed weapon systems.
- * Medical evacuation procedures must plan for mass casualties. Mass casualty planning must coordinate for

use of respiratory equipment and
management of medical personnel for possible severe
patient care.

- Plans and preparations must be made for heavy
decontamination, as well as replacement of applicable
M&A equipment.
- Success of the heavy attack lies not on the FAST, but
on the battalion trains which can immediately affect
the battle. The battalion S4 must use initiative and
improvisation to deal with the rapidly changing
situation and high casualties. He must use battalions to
retrograde casualties. The only way he can impact the
battle is to have anticipated needs beforehand and have
LOGPACs configured with critical supplies for rapid
availability.
- UICs and LUCs must be planned to provide support all
the way to the objective. Units must be prepared to
recover equipment forward to preplanned collection
points.
- Field trains should be prepared to move quickly with
the FAST.

7. Command, Control, and Communications.

a. Command and Control.

- * The commander monitors the progress of the leading and engaged combat units and anticipates their requirements.
- * When necessary, the commander commits forces from the main body to maintain the momentum of the advance.
- * The commander must make a rapid estimate of the situation and issue oral fragmentary orders.
- * Subordinate commanders must understand the commander's intent.
- * In the absence of orders, subordinate commanders take the appropriate action to retain the initiative.
- * Decision to commit the entire force or to halt the attack rests with the commander.
- * Commanders locate themselves with the lead elements to control the situation as it develops.

- * The commander must avoid piecemealing of his forces.
 - * The brigade main CP displaces as far forward as possible before starting movement, then displaces as required to provide continuous support.
 - * The brigade TAC CP operates forward with the main body to ease decision making and to transition to other offensive missions.
 - * The commander should monitor the leading forces command net.
 - * Approval to bypass units rests with the next higher commands.
 - * C2 of envelopment are: Zone of action, checkpoints and axis of advance.
 - * C2 measures for infiltration are: infiltration lanes (single/ multiple); coded designation of infiltrating groups; checkpoints; phase lines; assault positions; objectives; and rally points.
- b. Communications.

The force commander must have responsive and reliable communications. To accomplish this, the signal support plan must be closely coordinated with the operations plan so it will directly support the mission. In a mix of heavy and light forces, consideration must be given at the earliest possible planning stages for interoperability, not only of hardware but of key lists, Signal Operating Instructions (SOIs), and any software compatibility requirements.

If possible a reconnaissance of the movement routes should be made to determine if retransmission stations are needed to maintain continuous communications. Secure single-channel FM radio is the primary means of communications while on the move. It provides the most rapid and effective means of controlling a unit on the move. Communications are instantaneous and response time is minimal. To maintain operational security and surprise of the enemy, movement to contact should be conducted using radio listening silence or minimizing transmissions during movement. Technical analysis can identify specific radios by small differences in electronic signature. If the radio has been associated with a unit, enemy analysts will conclude that the unit is moving in the same direction as the radio. Detailed preplanning and coordination will eliminate the need for extensive radio communications while on the move.

Visual communications and messengers can be used during a move. Visual communication will be based on unit SOPs. SOPs will have to be exchanged between the light and heavy unit and visual signals rehearsed

prior to implementation. Visual signals include flags, lights, panels, pyrotechnics, and arm and hand signals. These methods are vulnerable to interception and the enemy may use similar signals for deception and confusion. Motor messengers and runners can provide timely, secure communications for the unit. They can be detailed to follow the task force commander in a designated vehicle (motorcycle/HMMWV).

H. Deliberate Attack.

A deliberate attack is planned in detail and is expensive in terms of manpower, equipment, and supplies. It is characterized by thorough planning; rapid concentration of forces; opportunistic exploitation of enemy weaknesses; violent execution; early transition to exploitation; and positive, aggressive leadership at all echelons of command. The deliberate attack involves overcoming strong enemy forces in established positions and is undertaken after time consuming reconnaissance, acquisition and development of targets, and analysis of all factors affecting the situation.

The object is to concentrate strength against the enemy's weakness to shatter his defense. As in any attack, time is also to the defender's advantage. The time used in planning is time used by the enemy to improve defensive positions and defense in depth. Plans must be quickly made to bring all available resources to bear in a coordinated attack. Detailed

information about the enemy must be collected from higher to lower, and adjacent units. Sources for the information can include planning, reconnaissance by fire, aerial photographs, prisoners, refugees, electronic warfare, radar, sensors, and other available means. Information about the terrain can be collected from many of these same resources.

The unit itself must be organized for the deliberate attack to best perform the tasks assigned. New units may be attached or placed in support. These forces must be thoroughly integrated into the receiving unit's plan of attack. Time must be made available to completely familiarize augmenting units and replacements with the situation, mission, SOPs, and CEOIs.

If the enemy has had time to develop a well prepared positional defense, freedom of maneuver will be limited and an overwhelming concentration of combat power will be required to overcome it. Mutually supporting positions may make it impossible to infiltrate. To overcome such a defense, the area must be isolated with either direct fire suppression, field artillery, mortar high explosive rounds, and smoke, or a combination of all. Simultaneously, efforts must be made to minimize the enemy's capability to react by fixing other enemy positions in zone by fire, maneuver, or threat of maneuver. This effectively seals off the area from enemy reinforcements. A strong force is then committed to overwhelm the enemy at an identified or created point of weakness.

Sequential or piecemeal attacks will fail even if the overall ratio is favorable. All positions in the area are cleared and additional forces are committed to drive through to the enemy's rear.

1. Intelligence Support.

The deliberate attack is planned in detail and therefore requires a thorough reconnaissance, detailed situation and target development, and concentration of combat power. All IEW assets support this effort and join with any divisional, corps, national and USAF assets to provide total battlefield reconnaissance and development.

The GSR or REMBASS teams in the deliberate attack will displace by echelon with the forward security element. While early warning and protection of flanks is a primary mission they can also vector units through smoke and search possible ambush areas. Once contact is established, GSR and REMBASS should be focused along possible enemy counterattack routes and the flanks.

The LRSU teams should be inserted to confirm the existence and location of key enemy forward CPs; report on enemy activity and unit locations; and provide detailed information on enemy defensive positions. Infiltration and exfiltration take careful planning. If helicopters are available, plan false insertion LZs with actual LZs.

Light scouts can infiltrate to pass detailed information concerning enemy defensive positions and obstacles. Consider augmenting light scouts with AT assets to increase mobility and communications range. Teaming light and heavy scouts is also a consideration. Heavy scouts can perform route reconnaissance, report trafficability, and bridge classifications. Light scouts gather detailed information on obstacle and defensive positions and can pass reports to the heavy scouts for relay. Heavy scouts have the mobility to screen the units open flanks and quickly break contact.

Ground based communications intercept equipment should be located as near the FLOT as possible to provide available enemy situation updates prior to the attack. As the attack progresses, collection teams can be alternately moved forward by echelon. (NOTE: Once displacement begins DF capability and reliability will be effected. During this period, airborne DF assets, if available, will have to be relied on more heavily.)

2. Maneuver.

a. Light-Heavy Brigade.

A brigade conducting a deliberate attack has four forms of maneuver to choose from. These are a penetration, a frontal attack, an envelopment, and an infiltration. The use of the light and heavy task forces in each one of these forms of maneuver is based on METT-T. The

options range from employing the battalions pure to task organizing into heavy-light, light-heavy teams down to and including company level teams. The commander must determine how to employ each force, capitalizing on the unique characteristics of each while offsetting limitations.

In the attack, a heavy task force can support a light brigade by:

- * Providing suppressive fires.
- * Isolating the objective.
- * Acting as a counterattack force.
- * Providing the initial hasty defense during consolidation.
- * Providing attack by fire.
- * Deceiving the enemy concerning the main effort.
- * Overwatching counterattack routes on the objective.
- * Assisting in an assault breach.

- * Acting as a reserve or exploitation force.
- * Acting as the lead force in the attack.

(1) Penetration:

The heavy force can play a key role in a penetration.

If the terrain is broken (restricted and open) or open; the shock, mobility, and firepower of a heavy task force is used to rupture the enemy positions and effect a penetration. Fires (direct, indirect, and smoke) on the enemy defensive positions help to suppress and isolate forces at the point of penetration, to deprive the enemy of mutual support and defensive fires. Once the enemy is overwhelmed at the point of penetration, light infantry task forces hold and widen the shoulders of the penetration and assist other forces as they pass through the gaps to secure their objectives. The heavy task force can then either roll up the flank of the enemy or be used as a breakout/exploitation force to secure deep objectives (i.e. enemy C3, CS, or CSS assets).

If the terrain in the area of penetration is restrictive, there are several options for employment of the heavy task force. The heavy task force may be initially positioned to provide suppressive fires in and around the point of penetration in support of the light forces rupture of the enemy's positions. Heavy forces may also provide suppressive fires to isolate the point of penetration. Once the

penetration is secured and there is open or broken terrain past the point of penetration, the heavy forces can be used as a breakout or exploitation force. If terrain continues to be restrictive, the heavy task force can either move forward to assist and/or hold the shoulders of the penetration open, follow and support the light task force conducting the exploitation, or be designated as a reserve.

(2) Frontal Attack:

As in the penetration, use of heavy forces in the frontal attack will depend on METT-T. In restrictive to broken terrain, where the threat is primarily dismounted, the light task force should lead the attack with the heavy task force either designated as a reserve or positioned to overwatch the light forces. As the reserve, the heavy task force can be employed to ensure or exploit success. As an overwatch force, it can be positioned to provide direct fire or suppressive fire on the objective, or these forces can be used to isolate the objective from any enemy attempt to reinforce.

In broken to open terrain, where the threat is motorized with some armor, the heavy task force can lead the brigade attack. This requires extensive air and vehicle augmentation for the light task force. One light task force is placed in vehicles to follow and support the heavy task force. When restrictive terrain is encountered, the light force dismounts and becomes the main attack. In

order to maintain the momentum of the attack, the other light task force conducts successive air assaults forward of the heavy force to seize and secure chokepoints. This technique is best used when the resistance is light, in the pursuit, or exploitation.

(3) Envelopment:

In an envelopment, the key considerations for the employment of the heavy force is the type of terrain the friendly forces have to operate on, and the make up of the opposing force. If the terrain is open and the opposing force is heavy, the heavy task force conducts a supporting attack to fix the enemy armor forces, while the light task forces maneuver to the flank(s) to attack the enemy's heavy forces with rear and flank AT fires and to cut his lines of communications. In this situation, light forces can be moved into position either by infiltration prior to the attack (based on accurate intelligence) or by Army aviation assets during the attack.

If the friendly forces are attacking on broken terrain, a light task force conducts a supporting attack to fix the enemy. The heavy task force and possibly another light task force (if transportation, air, or vehicle is available) conducts the envelopment to attack and roll up the enemy's flank and secure objectives into the rear to cut lines of communications and escape routes.

In extremely restrictive terrain, where there is little mobility for a heavy force, the heavy task force should be positioned to overwatch and provide suppressive fires to fix the enemy, while one or both of the light task forces maneuver to attack a flank.

(4) Infiltration:

During infiltration operations, the heavy task force will be employed in a supporting role. The heavy task force may be positioned to overwatch the infiltration lanes of the light forces. If a light force is discovered, the heavy task force can provide suppressive fires to isolate the area and assist in the extraction of the discovered elements. If terrain permits, the heavy task force can also conduct a limited counterattack to assist in the extraction of the discovered or light forces.

Once the light infantry forces have completed the infiltration and are either in assault positions or in the act of seizing and securing their objectives, the heavy task force at first light will either move forward as the reserve to assist or reinforce success, or become the brigade's main effort to exploit the success of the light forces.

In any deliberate attack, the heavy force can be used as part of a tactical deception operation. The noise created by a heavy

force will divert the enemy's attention. The heavy task force is used to deceive the enemy by employing it in a demonstration, ruse, feint, or as part of the supporting attack to draw the enemy's attention away from the light brigade's main effort.

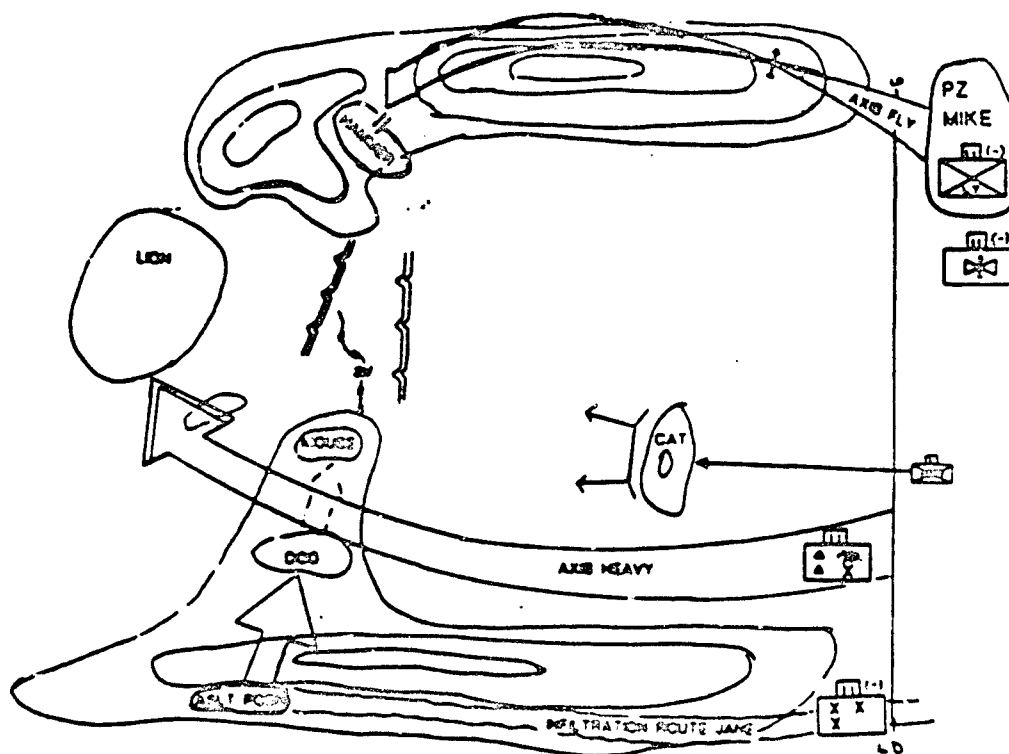


FIGURE 4-3-16. LIGHT-HEAVY BRIGADE INFILTRATION.

In the scenario at Figure 4-3-16, the light brigade is conducting a deliberate attack against elements of a motorized battalion to seize OBJ LION.

Objective CAT is occupied by a motorized platoon, OBJs DOG and MOUSE are occupied by an infantry company, and objective LION by an armored company with an infantry platoon. The concept calls for a light battalion initially as the main effort to seize CAT and DOG, then MOUSE. Upon seizure of MOUSE, the heavy force passes through DOG and MOUSE and becomes the main effort. As the passage of lines occurs, the attack helicopters initiate a supporting attack by fire from the NORTH on to LION to draw the enemy's attention to the NORTH. Simultaneously, the heavy force attacks along AXIS FINAL to seize OBJ LION from the SOUTH by envelopment. A light infantry battalion is the brigade reserve and is prepared to air assault to support the main attack.

During consolidation and reorganization, the heavy task force can establish a hasty defense as the light forces reconsolidate and complete defensive preparation. The heavy scout platoons can provide immediate mounted reconnaissance 3 to 6 km in front of the objective for early warning of enemy counterattack activities. The heavy task force can

also be employed to overwatch enemy counterattack routes and be the brigade's counterattack force against an enemy counterattack.

b. Light-Heavy Task Force.

The same basic considerations taken by a light-heavy brigade for the employments of light-heavy forces apply to the light-heavy battalion. The light-heavy battalion employs four forms of maneuver; the penetration; frontal attack; envelopment; infiltration. (As part of a larger force, it can take part in a turning movement.) A battalion may employ one or a combination of these methods to successfully accomplish its mission.

A correct combination of light and heavy forces creates a well balanced fighting unit which is strong in firepower and capable of rapidly closing with the enemy. The heavy team assists the light task force by providing it the capability to:

- * Neutralize or destroy enemy automatic weapons likely to hold up the infantry advance.
- * Neutralize the objective until arrival of the infantry.
- * Neutralize or destroy enemy reserves and artillery.

- * Destroy or disrupt command, communications, and supply installations.
- * Break up counterattacks.
- * Support infantry with attacks by fire.
- * Destroy enemy tank defenses.
- * Illuminate targets during limited visibility with organic searchlights.
- * Provide a rapid maneuver combined arms team by mounting infantry on tanks.
- * Attack and destroy fortifications.

In turn, the light force can assist heavy forces by:

- * Seizing ground from which the tanks may attack.
- * Destroying or neutralizing hostile AT weapons.
- * Closely following the heavy force attack to assist by

fire, seize the objective, mop up, and protect the reorganization of the heavy force.

- * Protect tanks from enemy personnel executing antitank measures while passing through towns, forests, stream crossings, or narrow defiles.
- * Remove obstacles, especially mines, holding up an armor attack.
- * Close-in security at night in defensive positions.

There are basically five ways heavy forces support light forces in the attack. These are:

- * Heavy forces initially attack by fire, then move forward rapidly to join the light force for the assault.
- * Light and heavy forces advance together; light forces are mounted in open terrain and dismounted in restricted terrain.
- * Heavy forces overwatching light forces from hull defilade positions near the line of departure until the

light forces reach the objective or heavy fires are masked.

- * Heavy and light forces converge on the objective from different directions. This requires infantry forces to cross the LD prior to heavy forces so that both forces close on the objective at the same time.
- * Heavy forces initially support by fire, then pass through the light forces and precede them to the objective.

Heavy forces initially attack by fire, then move forward rapidly and join the infantry for the assault. In this method, the heavy forces fire initially from hull defilade positions while the infantry moves across the line of departure to a position from which they can assault. When the infantry approaches this assault position or when the infantry masks the heavy fires, the heavy forces move rapidly forward and join the infantry in the final assault. During the assault phase, the heavy forces and infantry may move together, or the heavy forces may move slightly ahead of the infantry. This method is used when the objective is clearly defined and when the terrain is sufficiently open to permit heavy forces to fire overhead or to the flanks of the advancing infantrymen. Time is needed for careful coordination and preparation of a detailed supporting fire plan. This method provides effective heavy fires to cover

the movement of the infantry from the line of departure to the assault position, and it assures heavy force fire support at the critical time of the assault. Since heavy forces can move forward more rapidly than infantry, heavy forces are exposed to enemy fire for a shorter period of time; furthermore, the infantry is not endangered by enemy fire directed at the friendly heavy forces.

Infantry and heavy forces advancing together. In this method, the infantry and the heavy force moves forward near each other at generally the same speed. The heavy force may advance rapidly for short distances, stop to fire, then move forward again when the infantry comes abreast. This may result in heavy forces moving faster than infantry for short distances, but in general, heavy and light forces stay close together. This method is used when visibility, fields of fire, and heavy force movements are restricted. These conditions exist in fog, towns, woods, and at night. Using this method, the heavy force provides immediate direct fires and the infantry protects the heavy force from individual antitank measures.

In operations which require long and fast moves, the light and heavy forces may advance together with the infantry riding on the tanks or inside the BFVs until contact with the enemy is gained. This provides speed, but results in increased exposure of infantry to enemy fire, particularly to air bursts. It also interferes with the operation of the tanks. It is used primarily for exploitation missions.

Heavy forces overwatching infantry. In this method, the heavy forces fire from hull defilade positions near the line of departure until the infantry reaches the objective or until the heavy force's fires are masked by the infantry. Although the heavy force provides fire support, shock action is reduced. This method is used when either natural or artificial antitank obstacles prohibit the heavy force from moving to the objective.

Heavy and light forces converge on the objective from different directions. In this method, the heavy and light forces advance by different routes and converge on the objective. Usually the infantry elements move out before the heavy force so that both can close on the objective simultaneously. This convergence of power provides opportunity for surprise, increases fire effect and shock action, and often permits tanks to advance rapidly.

- * When conditions permit this form of employment, it is the most effective method. Essential favorable conditions are: open, or partially open terrain free from mines and other tank obstacles, and nearly complete neutralization of enemy antitank weapons by supporting fires and smoke. However, neutralization is needed only during the relatively brief period required for the heavy forces to move from their line of departure to the near edge of the objective.

- * This method requires use of a sufficient number of tanks or other weapons to provide ample mutually supporting firepower, and excellent coordination between heavy and infantry forces to prevent them from firing into each other when they close on the objective. When conditions do not permit speed, infantry accompanies the heavy force to furnish close-in protection.

Heavy forces initially support by fire then pass through the infantry and precede them to the objective. This method uses the armor protected firepower of the heavy forces throughout the greater portion of the attack. When the heavy forces advance from their initial firing position, they move rapidly through the advancing infantry to precede it at distances varying from 50 to 300 yards. They are protected against local antitank weapons by their own fires, fires of the assault rifle unit, and air burst artillery fires in front of the heavy force and on the objective. Upon lifting of the supporting fires just prior to arrival of the heavy forces on the objective, the light forces immediately open assault fire and follow the heavy forces onto the objective. Heavy forces must not advance beyond supporting fires of the light infantry force.

(1) Penetration:

In a penetration conducted on broken terrain by a

light-heavy task force, the heavy team concentrates on a narrow front (usually a platoon position) to penetrate and rupture the defense. Once accomplished, light teams move forward to hold and widen the shoulders of the penetration, allowing other forces to pass through the gap to secure their objectives. The heavy team is then used as a reserve to assist or reinforce success of the light teams widening the shoulders of the penetration; used as a counterattack force against an enemy attempt to close the penetration; or as an exploitation force to destroy enemy C3, CS, or CSS assets.

If the terrain is restrictive, the heavy forces can establish overwatch positions and provide suppressive fires in and around the point of penetration. Once the penetration by the light teams is effected, the heavy team moves forward as the task force reserve to assist or reinforce success of the light teams.

(2) Frontal Attack:

In a frontal attack conducted on broken terrain, where the threat is primarily dismounted, the heavy team should be employed as a reserve or overwatch force. As the reserve, the heavy team is employed to reinforce, or exploit success. As an overwatch force, the heavy team provides direct fire support to neutralize the objective.

In broken or open terrain where the threat is motorized with armor, the heavy team can lead the attack. This requires light force augmentation (riding on the tanks, inside the BFVs, or in trucks). When restrictive terrain is encountered, the infantry forces dismount and move forward to secure and clear the terrain. This technique is best used in the pursuit or exploitation.

(3) Envelopment.

When conducting an envelopment on extremely restrictive terrain, the heavy team should be positioned to overwatch and provide direct fire to fix the enemy force while the light force(s) maneuver to attack a flank.

If conducting an envelopment on broken terrain where the threat is dismounted, the light team makes a supporting attack to fix the enemy while the heavy team and possibly the other light team conducts the envelopment to attack and roll up the enemy's flank or secure objectives in his rear. If a light team accompanies the heavy team in the envelopment, it moves on the heavy team's combat vehicles (on top of the tanks or inside BFVs) to an assault position. At that location the light infantry rapidly dismounts and the assault begins.

If the terrain is open and the opposing force is heavy,

the heavy team should be used to conduct a supporting attack to fix the enemy force, while light teams move to the flanks to attack the enemy heavy forces with rear and flank anti-tank fires and cut his lines of communications. Light forces can be moved into position either by infiltration prior to initiation of the supporting attack (based on timely accurate intelligence) or by Army aviation assets during the attack.

(4) Infiltration:

In a light-heavy task force, the heavy team will overwatch the light teams' infiltration lanes. If a light team or elements are discovered, the heavy team will provide suppressive fires to isolate the area to assist the light team self-extraction. If required and the terrain permits, the heavy team may conduct a limited counterattack to assist in the extraction of the discovered light element.

Once the light teams have secured their objective or are in the process of doing so, the heavy team can attack the objective by fire, move forward to join the light team for the assault, or initially support by fire, then pass through the light force to seize a deeper objective.

In the deliberate attack, the heavy team can be used to deceive the enemy as to where the main effort is. This is accomplished by giving the supporting attack to the heavy team. The noise and the enemy's

belief that the heavy force will always be employed in the main effort will divert his attention to the supporting attack.

During consolidation and reorganization, the heavy team can establish a hasty defense while the light teams reconsolidate and complete defensive preparations. The heavy team can also overwatch enemy counterattack routes into the objective and can be used to break up any counterattack.

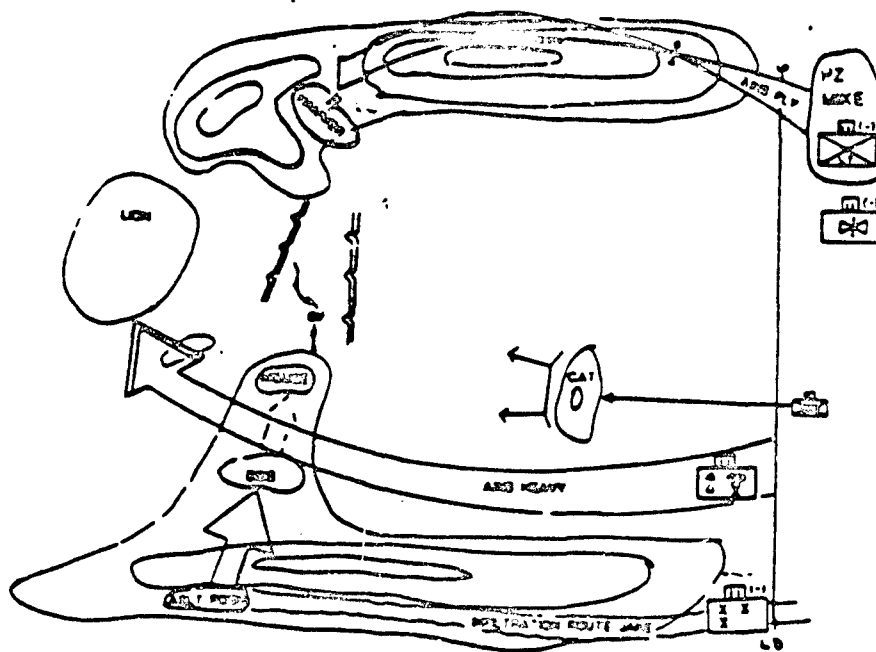


FIGURE 4-3-17. LIGHT TASK FORCE DELIBERATE ATTACK.

In Figure 4-3-17, the light task force is conducting a deliberate attack to seize OBJ CAT, DOG, and MOUSE. OBJ CAT is occupied by a motorized rifle platoon, OBJ DOG and MOUSE an infantry company. The concept calls for light task force to conduct a night infiltration through LANE JANE to the designated assault position. As the infiltration is conducted, an OPCON mechanized team moves into an attack position (the last covered and concealed position prior to the LD). Prior to daybreak, the light task force attacks to seize and secure OBJ DOG. Simultaneously, the heavy team attacks to seize and secure OBJ CAT. Upon seizure of CAT, the heavy team supports by fire the light task force seizure of OBJ DOG and MOUSE. When fires are masked or the OBJ is seized, the heavy team moves to OBJ DOG and MOUSE and establishes a hasty defense oriented on the mounted avenues of approach.

c. Heavy-light Task Force.

The purpose of employing heavy-light forces is to capitalize on the unique characteristics of each while offsetting the limitations of the other. The goal of heavy-light operations is to optimize both forces to defeat the enemy. Heavy-light operations provide the commander greater flexibility. As a result of the estimate process, commanders will be able

to determine the appropriate force level to task organize down to for the tasks to be accomplished, the appropriate command and support relationship, the required amount and type of augmentation and/or support to be provided, and the concept of CSS.

In the attack, the light team supports the heavy task force by:

- * Providing reconnaissance.
- * Deception.
- * Infiltration at night.
- * Breaching obstacles.
- * Clearing enemy that defend obstacles.
- * Provides security.
- * Air assaulting to seize objectives.
- * Conducting MOUT.
- * Seizing ground from which tanks may attack.

- * Destroying or neutralizing hostile AT weapons.
- * Closely following the heavy task force attack to assist by fire, seize the objective, mop up, and protect the reorganization of the heavy force.

A key difference between heavy and light forces is mobility. For successful heavy-light offensive operations, this must be overcome. One way is to deploy the light forces early enough to allow both heavy and light forces to close on the objective at the same time. The other is to provide transportation to the light force (air or vehicular). Army aviation assets will be provided on a case by case basis. Wheeled vehicles can be provided to allow the light forces to follow, but this will result in a degradation of timely resupply. Finally, the light forces can ride on the inside or outside of the heavy forces' combat vehicles.

The basic forms of maneuver used in an attack by a heavy task force are envelopment, turning movement (as part of a larger force), infiltration, penetration, and frontal attack. Frequently, the task force uses more than one form of maneuver to accomplish the attack.

(1) Envelopment:

An envelopment is the preferred form of maneuver for a

heavy-light task force. It requires an assailable flank, found primarily by aggressive reconnaissance. The assailable flank is determined by the enemy's weapon orientation and his obstacles.

A heavy-light task force will be primarily conducting operations in broken and sometimes open terrain. In broken terrain where there is an open flank, the light team and possibly a heavy team make a supporting attack to fix the enemy while the other heavy team of the task force maneuvers against the enemy's flank or rear. To be successful, the supporting attack must have sufficient combat power to keep the enemy fully engaged while the enveloping force closes.

In open terrain, a heavy team from the task force makes the supporting attack to fix the enemy, while the other heavy and light teams maneuver against the enemy's flank or rear. The light team will be used to attack dismounted enemy infantry, C³, combat support, and combat service support assets. The heavy team will focus on enemy armored vehicles. Positioning of the light forces can be accomplished by infiltration prior to the attack, by Army aviation assets during the attack; or by riding to a dismount point on or inside the maneuvering heavy teams' combat vehicles.

(2) Penetration:

In the penetration, the heavy-light task force

concentrates forces to rupture the defense on a narrow front, usually an enemy platoon position. The gap created is then widened and used to pass forces through to defeat the enemy in detail and to seize objectives in depth.

In a heavy-light task force, the heavy teams, in hull defilade, isolate by fire (direct, indirect, and smoke) the point of penetration. The light team moves forward, breaching the close-in obstacles and seizing enemy positions behind these obstacles. These teams widen and hold open the shoulders of the initial penetration. Once the penetration is accomplished, one heavy team moves into the gap to complete the destruction of the enemy position by rolling up the flank and the other heavy team moves through to secure deep objectives.

(3) Frontal Attack.

The frontal attack is the least preferred form of maneuver. In broken terrain where there is a mixed threat, the light team conducts a supporting attack in the restrictive terrain with the heavy team conducting the main attack in the open terrain. If there are two heavy teams remaining, one should be given a follow and support mission behind the main attack, and the other designated as a reserve. As the reserve, the heavy team will be employed to ensure, reinforce, or exploit success. An example would be to position the reserve in an overwatch

positions to provide direct fire on the objective in support of the light team's assault.

In a frontal attack on open terrain, the light team can be given a follow and support mission behind the main attack. This will require the light force to be augmented with wheeled vehicle support. Another option is to air assault the light team behind the enemy force's main line of defense to destroy and disrupt enemy lines of communications, command and control facilities, CS, and CSS assets. Key to the survivability of the light forces in this situation is timely linkup with the heavy force.

(4) Infiltration.

Infiltration is a form of maneuver where combat elements move by stealth to objectives in the rear of enemy positions without fighting through prepared positions. A successful heavy-light task force infiltration requires the light team conduct effective reconnaissance to discover and secure undefended routes and gaps in the enemy defense. Such routes/gaps are normally found in rough terrain or in areas difficult to cover with observation and fire.

Another technique is for the light force to infiltrate to seize and secure a critical chokepoint. The heavy teams are positioned to provide overwatch of the light team's infiltration lanes. If the

elements of the light team are discovered, heavy teams can provide suppressive fires to isolate the area and assist the light force in self-extraction. If required and terrain permits, a heavy team can also conduct a limited counterattack to assist in the extraction of the discovered light force.

Once the light team has completed the infiltration and is either in an assault position to seize and secure, or securing, the chokepoint, the heavy teams attack to either provide direct fire support to the light team or to pass through the secured chokepoint to attack deeper objectives.

In the heavy-light task force, the light team can be used to deceive the enemy as to where the main effort is. Using the enemy's belief that the heavy team will be used in the main effort, and the light team will be used in a supporting role, the light team is postured as the lead element for what is portrayed to be the supporting attack. This diverts the enemy's attention to where he believes the main attack will be (which is in reality the supporting attack). As the attack begins, a heavy team swings into the light sector, passes through the light force, and assumes the main attack.

In consolidation and reorganization, the light team provides close-in security to the heavy-light task force. The light team can also conduct extensive patrolling to the front, rear, and flanks as

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In Figure 4-3-18, the heavy-light task force is conducting a deliberate attack to seize OBJ LION. LION is defended by an armored company with a platoon of infantry. The concept is that upon the light-heavy task force seizure of DOG and MOUSE, the heavy-light task force passes through the chokepoint and becomes the main attack. As the passage of lines occurs, the attack helicopters initiate a supporting attack by fire from the NORTH on to LION, drawing the enemy's attention to the NORTH. The heavy-light task force moves on AXIS HEAVY with two heavy teams on-line and an armored reserve. The reserve is carrying the light team.

Upon reaching hull defilade overwatch positions just short of OBJ LION, the light team dismounts. The heavy teams isolate by fire (indirect, direct, and smoke) the point of penetration. The light team rapidly moves forward breaching the close-in obstacles and seizing enemy positions behind these obstacles. The light team then widens and holds open the shoulders of the penetration. Once the penetration is accomplished, a heavy team moves through the gap to complete the destruction of the enemy position by rolling up the left flank and the other heavy team accomplishes the same on the right flank of LION.

3. Fire Support.

(See Chapter 3, Part Three, Section II B, Paragraph 3, Fire Support considerations for deliberate attack.)

4. Mobility/ Countermobility/ Survivability.

The success of any deliberate attack largely hinges on the success of the intelligence collection effort; the same applies to the success of breaching operations. The priority of engineer effort during planning and preparation, is obstacle reconnaissance. The staff engineer at every level participates in the IPB and templates enemy obstacle effort. Based on the enemy obstacle template and tentative maneuver plan, the engineer develops an obstacle intelligence collection plan as part of the overall R&S plan. Engineers are aggressive participants in the recon effort.

Light and mechanized engineer forces each have unique capabilities that can be applied to the recon effort. The light engineers are adept on forming obstacle recon teams capable of operating using stealth to recon NAI's in close proximity to the enemy defense. They are able to get a detailed look at enemy protective obstacles and fortifications. While the light engineer can operate very decentralized, their efforts must be focused on critical NAI's. They require time to conduct their recon and cannot shift their efforts to subsequent NAI's as

the situation develops. Mechanized engineers, however, can move relatively quickly to dismount points, form recon teams and conduct a dismounted recon of the NAI using the carrier as base of operations. The mechanized engineer can also shift his focus to other places on the battlefield as the situation becomes clearer. Mechanized engineers should focus their efforts on enemy tactical obstacles rather than protective obstacles. This division of recon effort capitalizes on their respective expertise. The mechanized engineers assess the obstacle for the breach assets required to support the heavy forces through enemy tactical obstacles while the light engineers do the same for the assault breaching by light infantry on the objective. Last, there must be a detailed link up plan developed for recovering light engineer reconnaissance teams. Establishing a contact point where follow on wheel engineers move to link up with light engineers is a viable technique.

Engineer support to a heavy-light task force centers on a mechanized based engineer company. The heavy combat force must be capable of task organizing mobility assets for the in-stride breach. This requires the mobility equipment assets found in the mechanized company as well as some mechanized engineer platoons. Light engineers are not capable of providing adequate in-stride breach capability to a heavy force. Additionally, the heavy force must be able to rapidly transition to or task organize for a deliberate and assault breach.

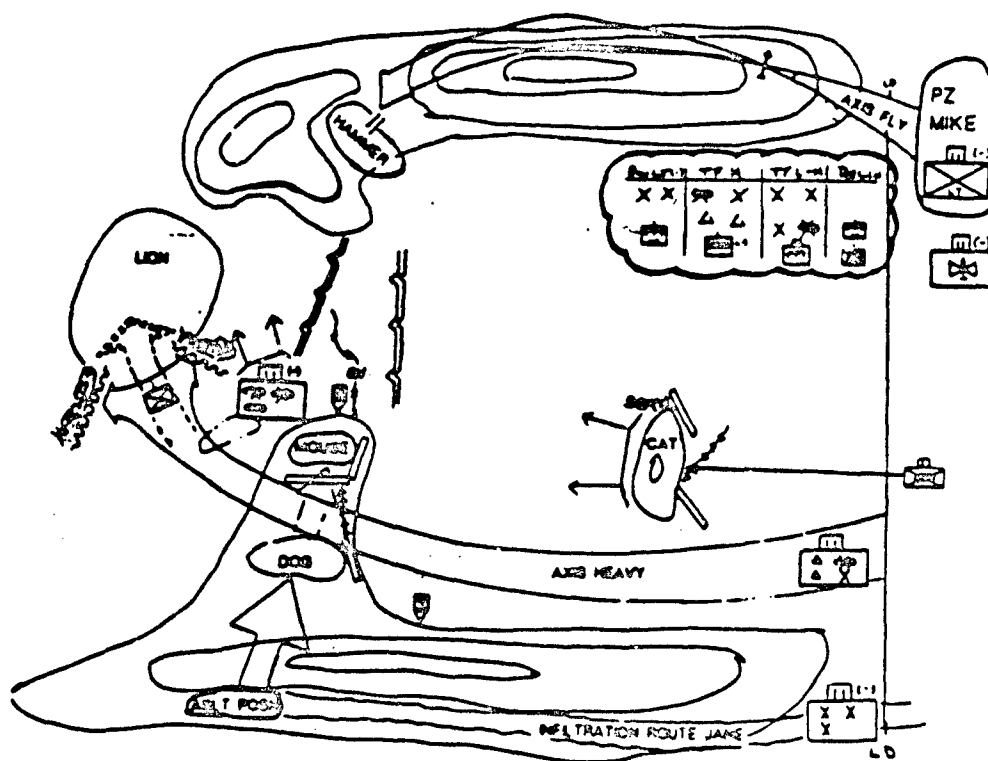


FIGURE 4-3-19. ENGINEER SUPPORT FOR A DELIBERATE ATTACK.

Above is an example light-heavy brigade deliberate attack. The example illustrates some of the points discussed in light, mechanized, and wheeled engineer task

organization and missions. The Scheme of Engineer Operations for this example is as follows:

The engineer recon effort is the priority of engineer effort during mission planning and preparation. A light infantry company and mechanized engineer squad support are dedicated to the recon effort. The light engineer company focuses its recon on the protective obstacles on OBJ CAT, OBJ DOG and OBJ MOUSE in order. The mechanized engineer squad moves OBJ CAT to recon between support by fire X and OBJ MOUSE and then moves to conduct an area recon vicinity CP 15. Another light engineer company provides the light infantry battalions deliberate and assault breach effort into OBJ DOG. A wheel based engineer company with two wheel platoons, 1 mechanized platoon and set of plow/rollers supports the light-heavy task force attack on OBJ MOUSE.

The wheeled company provides in-stride capability to the tank company, assault breach capability on OBJ MOUSE, and assault lane improvement through OBJ DOG/MOUSE to pass the heavy task force through on AXIS HEAVY. The heavy task force is supported by a mech company. The mechanized engineer company consists of two mech platoons and the rest of the company's MICLICs. The mechanized engineers are task organized to provide in-stride breach capability at OBJ CAT

and during passage through OBJ DOG/MOUSE. The company moves with the task force on AXIS HEAVY and provides deliberate and assault breach support on OBJ LION. On order, the third wheeled engineer platoon moves to CP 4 and links up with light engineer recon patrols.

The deliberate breach requires massing engineer combat power in the breach force while other combat elements suppress from support by fire positions or secure the breach by fires and/or force. Engineer support must be able to move quickly and under fire with the equipment necessary to breach multiple lanes capable of passing armored forces. Light engineers may be mounted in infantry carriers when mechanized engineers are not available, but this is more appropriate for the assault breach. Light engineers are very adept at supporting a heavy force during its assault. Light engineers may be task organized down to assaulting infantry platoons so that engineer support is responsive. Mounting sapper teams in the platoon leaders carrier is a technique. Light engineers platoons should be allocated to light infantry companies augmenting a heavy based force.

Engineer support to a light task force centers on a light engineer company. In general, a light infantry task force does not commit its engineers to a breach in-stride. Instead, it uses the skills and equipment organic to light infantry companies to breach footpaths through obstacles that are battlefield clutter or very lightly defended.

Committing light engineers is reserved for the deliberate and assault breach. Heavy forces operating with a light task force must have an in-breach capability. This is particularly true if the force is armor heavy and when the heavy force moves on a separate axis from the light force. In general, a mechanized engineer platoon is not split. But, when the heavy force is a company/team or less, one to two squads with a MICLIC should accompany the company/team. Again, if the force is armor heavy, the task may require a platoon augmented by MICLIC and tank plow/roller sets.

In the deliberate attack, wheeled engineers are used as a flexible engineer reserve that allow a rapid shift in engineer effort. Wheeled engineers can maneuver behind the main attack improving assault lanes to support the movement of follow-on combat, CS, and CSS assets. Wheeled engineers must be prepared to commit to the fight in support of either light or heavy based task forces. They are able to shift direction relatively quickly and commit to a failed in-stride breach effort critical to the fight. This requires engineer plans and sub-unit instructions to engineer forces designed with flexibility. The wheeled engineer assets may be dedicated to the hauling of obstacle material to the objective and the emplacement of obstacles to repel a counterattack during consolidation. Last, wheeled engineers may be responsible for linking up with dismounted engineer recon teams and transport of light engineers forward as the fight is pressed deep.

5. Air Defense.

In the offense, the air defense commander conducts an air IPB to determine the enemy's air avenues of approach. This will assist him in determining the allocations of his assets. The air defense commander should allocate his assets in the following manner. Each light battalion should have five Stinger teams in direct support and the heavy task force should have its SP Vulcan platoon and its attached five Stinger teams in direct support.

The towed Vulcans should remain in general support of the brigade during the attack due to their difficulty of mobility. The towed Vulcans can follow and support the light battalions with supporting ground fires and air defense protection of critical points along the MSRs. The remaining ten Stinger teams should be kept in general support defending critical assets that the brigade commander has designated as air defense priorities.

The FAAR radars should be kept in general support of the brigade. The FAAR radars must echelon forward during movement to ensure that there is constant early warning for the maneuver battalions. Their echelonment will be dependent on the terrain and the analysis of the air avenues of approach.

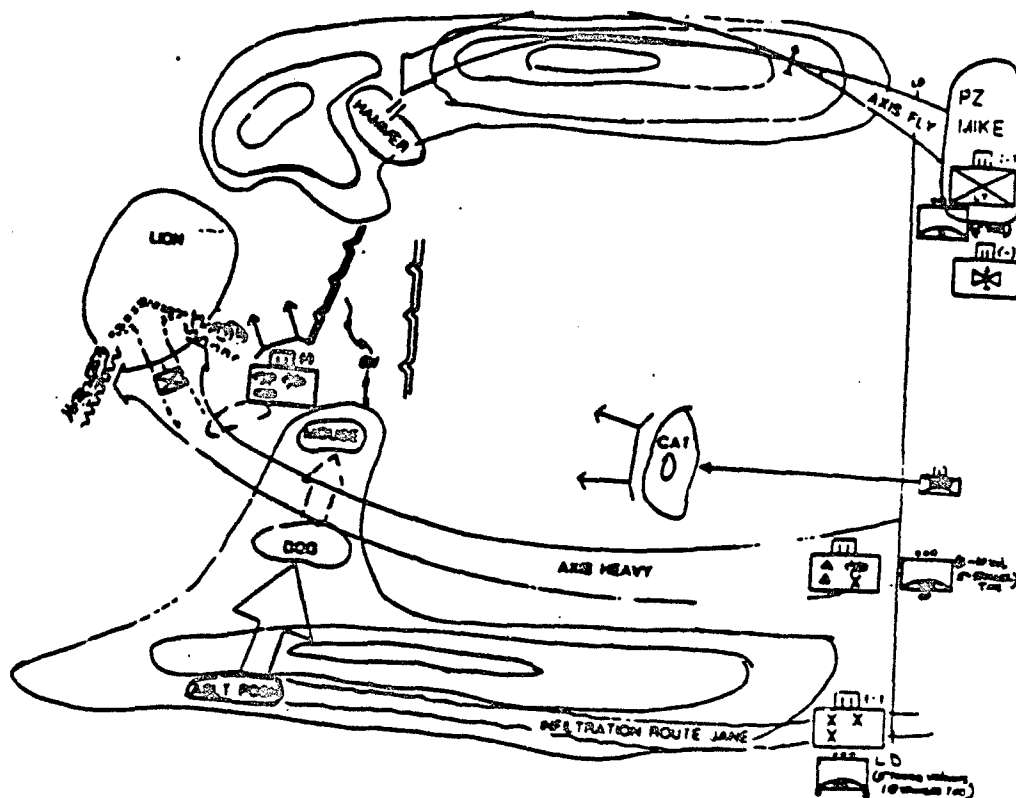


FIGURE 4-3-20. AIR DEFENSE COVERAGE FOR A DELIBERATE ATTACK.

In the above example, the air defense battery commander has task organized for the offense in the following manner. He has given the heavy task force one platoon of SP Vulcans

and five Stinger teams in direct support; the light battalion conducting the main attack has been given one platoon of towed Vulcan and ten Stinger teams in direct support; the light battalion as the reserve, has been given five Stinger teams in direct support, and he has retained the two platoons of towed Vulcans, five Stinger teams, and the FAAR radars in a general support role.

The FAAR radars will be positioned by the air defense battery commander to provide early warning to the brigade along its routes. The FAARs will have to be in position prior to the attack to facilitate timely early warnings for the advancing battalions. The FAARs will displace by echelon to the front of the units to maintain continuous coverage.

The light battalion's air defense platoon leader will position his Stinger teams within the light companies depending on the battalion commander's priorities. The towed Vulcan platoon will follow with one of the main body. Upon reaching the assault position, the towed Vulcans should be positioned in a manner to provide air defense coverage for the battalion within the assault position. Upon the assault, the towed Vulcans can provide additional ground fire. The Stinger teams will maintain air defense coverage

for their assigned units during the assault. Once OBJ DOG and OBJ MOUSE have been secured, the air defense platoon leader will reallocate his remaining assets to provide a perimeter type air defense

The SP Vulcan platoon leader in direct support of the heavy task force will allocate his assets in accordance with the task force commander's air defense priorities for the attack. He should allocate the SP Vulcan platoon to the unit conducting the main attack and disperse the five Stinger teams among the other teams. The way he allocates his assets probably will suffice throughout the attack until OBJ LION. Upon securing of OBJ LION, the platoon leader will reevaluate his assets and reallocate them in accordance with the task force commander's priorities and his air IPB.

The five Stinger teams with the reserve will provide area protection for the reserve until they are committed. Upon commitment, the Stinger section leader will allocate his Stinger teams in accordance with the light battalion commander's priorities.

The air defense units held in general support will provide air defense protection for logistics and C² facilities. Once the final objective is achieved, the air

defense battery commander can reallocate his forces in accordance with the commander's priorities, the mission, and his air IPB.

6. Combat Service Support.

a. Sustainment considerations.

- * Many of the same considerations for hasty attacks apply except there is more time to synchronize the sustainment effort.
- * The FASCO and brigade S4 prioritize the sustainment effort in support of the main effort and plan to support follow-on actions. They also plan to move the BSA forward by echelon, jumping critical assets (class III, V, maintenance, medical) first.
- * Position the ATP as far forward as tactically possible and arrange to have the transportation assets to move it to keep it echeloned forward.
- * The FASCO may coordinate with large users (including the heavy battalion S4) to preposition packages of ammunition. He must also arrange for transportation to throughput

obstacle-breeching and bridging materiel when it is anticipated to be required.

- * The FASCO should arrange with battalion S4s for push packages of critical ammunition, fuel, and repair parts.
- * Fuel consumption will be high. The FASCO must be aware of the high expenditures of the heavy battalion in the attack. Fuel assets should be positioned forward.
- * Ration cycle is straight MRE. Issue to heavy units enough MREs for entire operation to free up some transportation.
- * Maintenance considerations are similar to those for the hasty attack. Also, for the light elements, air delivery of critical class IX and evacuation of damaged equipment should be used whenever feasible.
- * Assets must be available to keep the FAST mobile.
- * The brigade S4 with the FASCO must ensure that consolidation and reorganization on the objective are planned in detail for CSS.
- * Plan to resupply light Stinger teams.

- * Establish maintenance, recovery, and evacuation priorities to support the commander's intent.

Battalion Considerations:

- * Combat trains are initially positioned forward, but they are not displaced until the objective is secured.
 - * Combat trains may move forward based on distance and available secure terrain for the move.
 - * Once the objective is secure, LOGPACs must be pushed forward to conduct immediate resupply operations.
- b. Military Police Support.

During offensive operations, one of the platoons accompanies the attacking force while the other continues to provide security to the logistical base. The platoon accompanying the attacking force provides battlefield circulation control, extracts EFW/CIs to the rear and secures the LOC back to the logistical base. Security for the brigade HQ is minimal.

- c. Civil Affairs Support.

- * Language and cultural expertise/advise.
- * CA area assessment. (Analysis of target nation support structure, transportation systems, airhead/port capacity, water sources, etc.)
- * Control civilians to prevent interference with military operations. (CA elements controls civilian detainees at airfield)
- * Coordinate host nation support. (facilities, transportation, ect.)

7. Command and Control. (See Chapter 5, Part Three, Section II B, Paragraph 7, Command and Control and for deliberate attack considerations.)

8. Nuclear, Biological, and Chemical.

The Smoke/Decontamination platoon is attached from corps assets. The smoke generators are employed to the rear of the initial combat force using terrain masking to increase survivability. Smoke is employed under proper METT-T conditions when it significantly increases friendly force survivability without seriously degrading operational capability.

Smoke is used to obscure enemy vision, harass the enemy, and neutralize his firepower and mobility. This can be accomplished during day and night operations. The Vehicle Engine Exhaust Smoke System (VEESS) is used to degrade the effectiveness of enemy antitank weapons during the movement to contact. Fog oil will be pushed forward after each smoke mission.

Decon equipment will remain at the BSA until after offensive operations or when requested to move forward. The best way to conserve these limited resources and still sustain combat power is by following the four principles of decontamination:

- * Decon as soon as possible.
- * Decon only what is necessary.
- * Decon as far forward as possible.
- * Decon by priority.

The assigned MOPP level is based on METT-T, but a unit cannot "fight dirty" indefinitely. Common sense must dictate employment.

An example of employing smoke assets in the offense is found in Figure 4-3-21. Meteorological conditions are as follows:

Wind Direction:	From SW to NE.
Wind Speed:	6 knots.
Temperature Gradient:	Inversion.
Time:	Most effective in early morning or late evening.

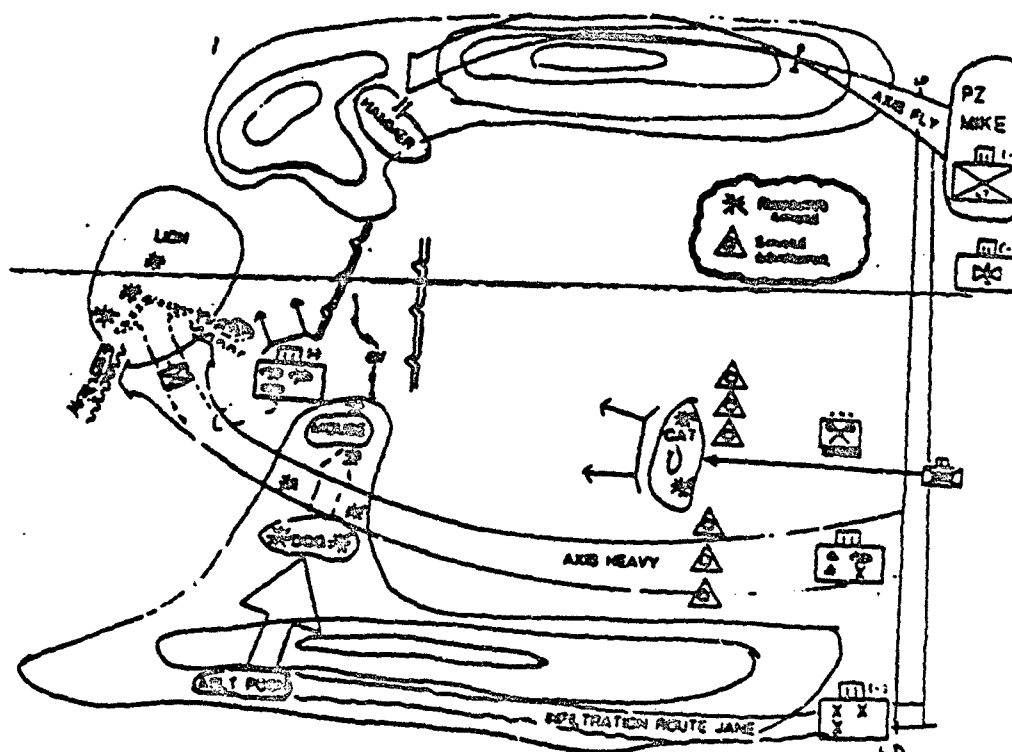


FIGURE 4-3-21. SMOKE OPERATIONS FOR A DELIBERATE ATTACK.

This type of smoke employment will provide a smoke haze. The visibility is from 50 to 150 meters. The smoke screen will conceal ground maneuver, breaching, and recovery operations.

The smoke generators must be placed in a hide position with cover from enemy artillery.

Projected smoke should be used on known enemy locations before the attack i.e. OBJ DOG, CAT, MOUSE, and LMCW. Smoke generators can be used to secure the main attack routes into the objective areas. Deception smoke should be used in several locations to increase the fog of war.

SECTION V. DEFENSIVE OPERATIONS

The defense is a temporary state that creates conditions that permit the brigade to survive the initial shock of the attack, to halt the enemy, to obtain superiority of combat, combat support, CSS, and to gain the initiative and go on the offensive. In the defense, a brigade may simultaneously attack, defend, or delay. Light-heavy brigades are expected to fight and defeat a regimental size unit.

The light-heavy brigade employ a variety of patterns in the defense. The range of options available to the brigade can be visualized as a continuum of combinations of area and mobile defenses. At one end of the continuum is an area defense oriented on the retention of terrain. It depends primarily on the use of firepower from fixed positions to deny terrain. At the other end is the mobile defense focused exclusively on the enemy. It depends primarily on fire and maneuver to disrupt and destroy the attacking enemy forces. Typically, brigades combine the area defense to control, stop, or canalize the attacker with the mobile defense to strike and defeat the enemy's committed forces.

Brigades usually defend in sector with battalion task forces (light, light-heavy, heavy-light, and heavy) defending, attacking or delaying in support of the overall brigade defensive mission. To accomplish this, brigades may defend with battalion task forces defending in sector, defending a strong point, defending a battle position, or a combination. Whatever pattern is chosen, the overall scheme makes the greatest possible use of maneuver and offensive tactics. This section will discuss doctrine, tactics, and techniques, by battlefield operating systems, for the integration and synchronization of a light-heavy brigade and its task organized battalions. Three types of defense will be discussed. These are; defend in sector, defend a strong point, and defend a battle position.

As in offensive operations, light and heavy operations have specific

considerations. Heavy units have characteristics, battlefield focus, capabilities, and limitations, which are different from the dismounted battalion. For that reason, mutual planning development of orders, rehearsals, and coordination between respective commanders and staffs must take place to capitalize on relative advantages and offset weaknesses. Nothing should be taken for granted during the planning and coordination processes. (See Chapter 4, Part Three, Section II for specific planning considerations.)

A. Potential tasks which a heavy unit may conduct in support of light heavy defensive operations are:

- * Counterattack.
- * Cover obstacles with long-range, direct fire.
- * Deceive enemy about main defense.
- * Covering force/security force.
- * Reserve.
- * Overwatch.

- * Rapid repositioning to prevent bypass.
- * Fix enemy attack.
- * Provide long range antiarmor fires.
- * Defend a battle position.

Potential tasks which a light force may conduct in support of heavy-light defensive operations are:

- * Block or fix likely dismounted approaches.
- * Occupy positions in depth.
- * Block mounted infiltration routes in restrictive terrain.
- * Occupy strong points
- * Security.
- * Counter reconnaissance.
- * OP/IPs.

- * Ambush.
- * Air assault to seize objectives.
- * Raids.
- * MOUT.
- * Reconnaissance.
- * Defend obstacles against enemy reconnaissance units.

The fundamentals of successful defense are preparation, disruption, concentration, and flexibility.

1. Preparation.

- a. To properly prepare the defense, the defender must be thoroughly familiar with the capabilities and the limitations of the enemy, including the enemy's organization, conduct of the attack, weapons systems and equipment.

- b. The defender analyzes the terrain in detail from all perspectives and becomes intimately familiar with every feature which could increase his chance of success. The attacker must feel his way over

the terrain, seeing each new compartment for the first time. The defender can prepare positions, construct obstacles, and conceal his efforts in advance. The attacker must guess where the defender is located. The defender initiates the fight from stationary positions which are difficult to detect and which provide cover from enemy fire. The attacker must react to the defender and must either fire while moving or lose momentum by seeking covered positions. The defender develops flexible plans for control of fire, movement, communications, and logistics to fit any predictable situation. The attacker adheres to a predetermined scheme and use destruction, or he alters his plan and risks an uncoordinated effort.

c. The defender must organize his defense around the weapons most effective against the principle threat. When facing a major armor force, the allocation and positioning of antitank weapons such as TOW, dragon, mines, and tanks should be paramount while other assets serve to supplement their fires and neutralize their vulnerabilities. Against an infantry threat, infantry defeating weapons such as machine guns, mortars, artillery, and small arms, plus anti-personnel obstacles are integrated to create a barrier to stop and destroy the enemy forward of the defensive position. As required, antitank weapons strengthen this barrier from protected positions at ranges which optimize their engagement capabilities. Effectiveness of all weapons is significantly increased when they are positioned where concealment and cover reduce or neutralize enemy suppressive fires. Counterattack plans to support the brigades defense and place the brigade in the offense are key to retaining the

initiations.

2. Disruption.

a. Operational security is the defender's first requirement to defeat an attack. Units must maintain operational security, avoid patterns, and practice deception to hide their dispositions. Enemy reconnaissance efforts and probing attacks must be defeated without disclosing the scheme of defense to the enemy. The counter-reconnaissance battle is normally a prelude to the larger battle. The winner of this battle is usually the winner of the final battle. Strong security forces to defeat enemy reconnaissance, phony initial positions or dummy positions, and obstacles are some of the measures used to increase brigade/ battalion security in the defense.

b. An attacker's strength comes from speed, mass, and mutual support of maneuver and combat support elements. The defender must slow the attack, disrupt the attacker's synchronization, and break up the mutual support between the attacker's synchronization, and break up the mutual support between the attacker's combat and combat support elements. This results in a piecemeal attack that can be defeated in detail. Disruption is achieved by defeating or misleading his reconnaissance forces, impeding his maneuver, disrupting his reserves, neutralizing his fire support and interrupting his fire and control. A general aim is to force the attack to fight in more than one direction. This makes it more

difficult for him to coordinate and concentrate forces and fires, and to isolate and overwhelm the defender. It also makes the securing of his flanks, combat support, combat service support, and command and control elements more difficult.

3. Concentration.

a. The commander achieves concentration through designation of the main effort. All other elements and assets support and sustain this effort. The commander may shift his focus by designating a new main effort if necessary. A commander may weight his main effort in the defense by:

- * Focusing counterattack plans in the sector.
- * Making the sector narrower.
- * Assigning the sector priority for obstacle preparation.
- * Giving the sector priority of indirect fires.
- * Assigning the sector mortar or artillery final protective fires (FPF).
- * Positioning the reserve near, in, or behind the sector.

b. Field artillery, engineers, infantry, air defense artillery, tanks, tactical aircraft, and attack/assault helicopters, and electronic warfare elements all contribute to mission success. The commander integrates available assets so that their combined effect on the enemy is far greater than the sum of their individual effects. Each asset, in given circumstances, can be the most critical to the defense. The commander must ensure that arm is integrated so that the strengths of each are maximized and their vulnerabilities reduced.

4. Flexibility.

a. Flexibility derives from sound preparation and command and control. Contingency planning permits rapid action. Understanding the commander's intent and contingency plans allows subordinate commanders to rapidly exploit enemy weaknesses.

Flexibility also requires that the commander "see the battlefield" to detect the enemy's scheme of maneuver in time to direct fires and maneuver against it. IPB determines likely enemy actions while security elements verify which actions are actually taking place. The commander does not limit this intelligence gathering efforts only to the forces in contact, but also concentrates on formations arrayed in depth. The enemy may attempt to bypass areas where the defense is strong. Hence, the defending commander ensures he is able to detect and react to enemy

movement along all possible avenues of approach throughout the course of the battle. The defender must never allow the attacker to gain tactical surprise.

Another means of attaining flexibility is through the timely allocation of artillery and mortar fire, tactical air sorties, and attack helicopter support. These assets can be quickly shifted to critical points to delay, disrupt, or destroy an enemy attack and then be shifted again to concentrate against other threats. Massing fires of infantry weapons, because of their limited range, requires concentrating sufficient personnel and weapons before the battle. Other direct fire weapons such as TOWs and tanks can more easily concentrate their fires. TOWs, because of their accuracy at extended ranges, concentrate fires primarily through assignment of primary and secondary sectors of fire. Tanks, because of their protection, more often reposition to concentrate fires.

Flexibility may also be achieved through planning and preparation of alternate and supplementary positions. By studying the terrain, small reserves may be positioned near critical terrain or likely enemy avenues of attack. Blocking positions, alternate positions, or even strong points may be established to deny the enemy the chance for a rapid breakthrough. If armored units are available, they can be used to concentrate forces or counterattack at critical times and places. Counterattack by dismounted infantry against armored forces is very difficult. However, certain conditions provide dismounted infantry a

distinct advantage over the enemy. A counterattack during reduced visibility through armor restrictive terrain permits the infantry battalion to close with the enemy before being detected. Infantry counterattack against dismounted infantry can and should be conducted whenever necessary to maintain the integrity of the defense and defeat the attacker.

b. A brigade in a contingency operation must simultaneously fight deep, close, and rear operations by committing all combat, CS, and CSS for employment in deep operations, security operations, the main battle area, reserve operations, and rear operations.

1. Deep Operations.

Deep operations are actions against enemy forces not yet in contact with friendly forces. They prevent the enemy from concentrating overwhelming combat power against the brigade main battle area (MBA) forces. This is accomplished by separating attacking echelons from the enemy's reserve and disrupting his command and control, CS, and CSS. The brigades deep battle begins will before the enemy closes with the main battle area. The brigade use intelligence assets to acquire high value targets whose destruction will severely restrict the enemy's ability to conduct offensive operations. BAI, electronic warfare (EW) assets, field artillery fires, LSRUs, scouts, and stay-behind light infantry forces and unconventional warfare forces are the chief means of conducting deep

battle.

2. Security Operations.

a. The brigade, in a contingency operation, conducts security operations forward, rear, and to its flanks to protect its freedom of action by reducing its vulnerability to hostile acts, surprise or influence. Security operations are characterized by aggressive reconnaissance to reduce terrain and enemy unknowns, gaining and maintaining contact with the enemy to ensure continuous information and providing early and accurate reporting of information to the brigade.

b. Security operations may take the form of a screen, guard, or covering force missions:

- * Screening forces primarily conduct surveillance operations to provide early warning to M&A forces and counter-reconnaissance operations to disrupt enemy reconnaissance force.
- * Guard forces accomplish screening force tasks and prevent enemy ground observation of the main body.
- * Covering force is the first echelon of a two echelon

defense. It fights to destroy the leading enemy formation. It provides early warning, furnishes information about the enemy's disposition, and gains time for the MBA forces to prepare defenses. It also delays, disorganizes, and deceives the enemy as to the location of the MBA.

c. The covering force is deployed as far forward of the MBA as the terrain and composition of the covering force allow. A task force from the brigade fights the covering force battle.

d. The commander's estimate determines the size and composition of the force. Units with the greatest firepower and mobility are best suited for the job. Mobility facilitates employment in depth across the brigade front. Light infantry forces should receive firepower/ mobility augmentation. Additional assets include artillery, engineer, MI, ADA, army aviation, EW and chemical (smoke or NEC reconnaissance) units. The covering force is controlled at brigade.

e. As the enemy attacks, the covering force fires long-range direct and indirect fire to slow the advance. As the enemy advances, the covering force adjusts positions, and where possible continues to fight or screen far forward. Deliberate targeting of specific elements of the attacking force by the covering force aids the defense in the MBA. Priority targets for the covering force should be enemy reconnaissance

groups, ADA systems, forward observer vehicles, enemy commanders, C³ systems, and engineer assets. Destruction of those targets degrades the enemy force's ability to react once he arrives in the MBA. As elements of the covering force approach the MBA, battle handover is executed with MBA forces.

f. Battle handover represents the transition of combat operations responsibility from the security force to the MBA. Handover occurs when the MBA forces are able to engage enemy forces with direct and organic indirect fire weapons based on recommendations of the security force and MBA commander (2-4 km forward of the FEBA). The brigade commander designates a phase line as the handover line, contact points and passage points. The transition will occur in some areas while security forces continue to fight the enemy in other areas. The actual handover takes place when directed by the brigade commander, covering forces retain freedom of maneuver prior to passage of lines. Security forces must pass around or through MBA forces as quickly as possible to minimize their vulnerability. The preferred method for the passage of lines is to move around a friendly force rather than through it to minimize tactical vulnerability and possible confusion. These forces move to and assume battle positions in the MBA or move to locations to rearm, reorganize, and prepare for future operations. (Units with critical reserve missions should not be placed in the covering force area (CFA) to revert to reserve missions on completion of the covering force operation.)

3. Main Battle Area Operations.

The decisive fight is fought by the brigade's main battle forces and reserve. Forces positioned in the MBA control or repel penetration. Reserves are maneuvered to destroy penetration formations or to attack deep; both operations seek to retain the initiative. The effects of deep and covering force operations coupled with sustaining efforts from the rear area combine with the main battle operations to defeat the enemy.

Brigade commander's assign battalions sectors, battle positions, or strong points based on their estimate of the situation. Assigned sectors will coincide with a major avenue of approach, while battle positions normally are designed on the flanks of main approaches and strong points block a major avenue of approach.

The brigade commander designates and sustains the main effort by giving priority of artillery, engineer, and close air support assets. The commander strengthens the effort on the most dangerous avenue by narrowing the sector of the unit astride it, allocating additional combat, combat support, and combat service support assets and assigning priorities to targets.

During the estimate of the situation, the brigade commander must determine the size, composition, and mission of the reserve force. Shock, mobility, and firepower are vital to the success in the employment of a

reserve force.

In addition to the designated reserve forces, the brigade commander should prepare to reorganize or redesignate a reserve once the initial reserve force is committed. Forces most easily designated are the reserves of subordinate units, depending on their level of commitment. Prior to the reserve being committed, engineers are assigned mobility/countermobility tasks in support of the reserve commander's multiple routes of movement. It is essential that control of engineers task organized to support the reserve pass to the reserve force in sufficient time to link up, resupply, reorganize, and rehearse to support the reserve mission.

Attack helicopters are normally held initially in brigade reserve or designated as the reserve temporarily during the battle when other reserves have been committed. Because of their mobility and firepower, attack helicopters are the quickest and most effective means of stopping moving enemy tank penetrations.

The brigade commander uses decision points throughout the sector to trigger early decisions on commitment of the reserve and other actions. Enemy arrival at decision points is tied to the time and space considerations needed for employment of the reserve. This information is graphically portrayed on the decision support template.

In planning offensive actions of the reserve, the brigade commander considers the enemy situation and estimates the time and distance factors relating to following enemy echelons. Then he determines which of his units will attack, where they will be positioned after the attack, and what interdiction or deep attack is necessary to isolate the enemy. Attacking units seek to avoid enemy strength. the most effective attacks seize strong positions which permit the attacking force to deliver fire on an exposed enemy's flanks and rear. If the reserve force is to stay and defend against another enemy echelon, it must complete its tasks, reorganize, and gain good defensive positions before overwatching or following enemy echelons can interfere.

Although he plans for counterattack contingencies in the overall defensive planning, the brigade commander realizes that it is unlikely that the enemy course of action will correspond exactly to prepared attack plans. As the situation develops, the commander answers these basic questions:

- * Is an MBA counterattack feasible or should the reserve be employed to contain enemy forces?
- * When and where should the reserve counterattack be executed?
- * In the event of a penetration of the MBA, which enemy echelon should be attacked and which should be blocked or

contained?

The brigade's reserve counterattack plan normally includes:

mission, a brief statement of the mission assigned by the higher headquarters and the intent of the higher headquarters; assumptions, the size and shape of an assumed penetration or enemy formation; the strength and composition of the enemy force; and the status of friendly forces in the MBA. Other factors include the capability to contain the enemy; deep battle assets available to support the attack; the strength and responsiveness of the reserve at the time of the attack execution; and the availability and capabilities of nuclear and chemical munitions.

Defensive organizations vary greatly. A significant obstacle in the MBA, such as a river, favors a terrain oriented defense planned to destroy enemy forces caught astride or against the obstacle. Reserves are used to destroy enemy forces that have crossed the obstacle. Speed of such a counterattack is essential to destroy isolated forces before they can be reinforced.

A defense may also be structured around static, mutually supporting positions deployed in depth throughout the MBA. Its effectiveness may be enhanced by holding out a large mobile reserve and committing fewer elements to the initial MBA defense. The primary function of committed elements in such a defense is to slow the attack and fight it throughout the area. Ground and/or air units then strike exposed

enemy forces and engage those that have penetrated the defended area.

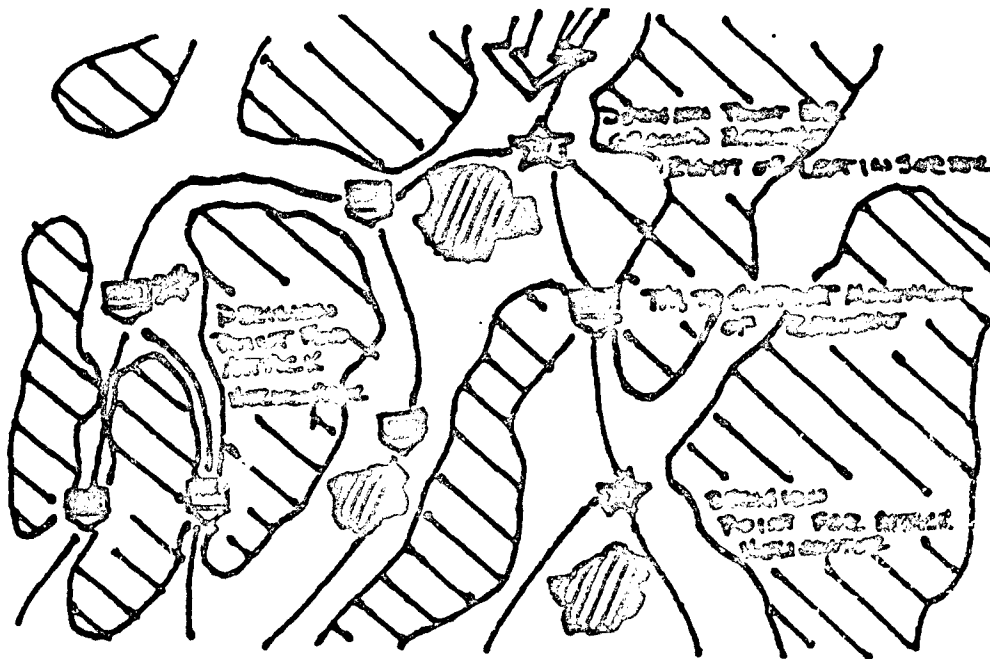


FIGURE 4-3-22. DECISION POINTS.

The brigade commander and staff must recognize the likelihood of penetrations of the MBA when they are fighting large numbers of enemy forces. Penetration of the MBA and separation of adjacent units are apt to occur if nuclear and chemical weapons are being used. When such penetrations occur, MBA forces must continue to fight. They must also protect their

flanks, and strike at the enemy's flank to reestablish contact across areas of penetration. Some penetrations can be eliminated by the brigade reserve, CAS, or army attack helicopters.

4. Reserve Operations.

The primary purpose of the brigade reserve in the defense is to preserve the commander's flexibility of action. Secondary purposes of the reserve are:

- * To reinforce the defense of committed forces.
- * To contain enemy force that have penetrated the FEBA.
- * To react to rear area threats.
- * To relieve depleted units and to provide for continuous operations.

The reserve counterattack, when committed, becomes the brigade main effort. The brigade commander avoids piecemeal commitment of the reserve. The brigade commander does not counterattack as an automatic reaction to an enemy penetration nor does he commit the reserve solely because an enemy force has reached a certain phase line or area. When possible, the counterattack is launched when the enemy presents his flank

or rear, when he has become overextended, or when his momentum dissipates. Success of the reserve depends on its timely commitment, mass, surprise, speed, and boldness.

Counterattacks against the enemy's rear or flank offer the best chance of cutting him off, disrupting his attack, and destroying his committed forces. The brigade commander normally bases the attack on an existing counterattack plan which is modified to fit the actual situation.

As the opportunity presents itself, reserves are employed in a spoiling attack role to throw the enemy preparations of an attack off stride. The spoiling attack delays, disrupts, and destroys the enemy's capability to launch an attack. The objective of the attack is to destroy enemy personnel and equipment, not to secure terrain and other physical objectives. However, opportunities to regain the initiative should not be lost.

The following basic considerations affect the use of the spoiling attack:

- * The position of the reserve assembly area.
- * Commanders designate the size of the force to be used and the acceptable risks in any spoiling attack.

- * Spoiling attacks are not conducted if the loss or destruction of the force jeopardizes the ability of the reserve to accomplish its primary defensive mission.
- * Mobility of the force available for the spoiling attack should be equal to or exceed that of the enemy force.
- * Deep operations are necessary to ensure the success of the spoiling attack.

5. Rear Operations.

The brigade rear area extends from the forward battalion rear boundaries to the brigade rear boundary. Units in the brigade rear area are responsible for planning defense against Levels I, II, and III enemy threats. Operations against a Level III rear area threat forces a major change in the brigade's mission. The brigade must provide forces to defeat Level II and III threats. Fire support, with its ability to shift on the battlefield faster than other forms of combat power, is key to rear operations.

D. Defensive operations may take a wide variety of forms. However, traditional usage divides defensive operations into the two broad categories of mobile defense and area defense.

1. Mobile defenses focus on the destruction of the attacking force by permitting the enemy to advance into a position which exposes him to counterattack and envelopment by a mobile reserve. The mobile defense is characterized by relatively small forces forward and the use of maneuver supported by time and obstacles to rest the initiative from the attacker after he has entered the defended area. To successfully execute a mobile defense, the force must have mobility greater than or equal to the enemy's and must be able to form the large reserve which will conduct the decisive counterattack. Additionally, a mobile defense cannot be conducted unless the temporary loss of some terrain is acceptable. For these reasons, a mobile defense is normally conducted by division and larger formations, although, in some circumstances, large brigades may execute this pattern of defense. In any case, heavy forces are required for the reserve, and may also be used as security forces or to contain anticipated penetrations. Light forces in a mobile defense are usually employed to hold strong points in suitable terrain within or adjacent to the area of the enemy's penetration, or, in some cases, to stop the enemy during the counterattack.

2. The area defense is usually conducted to deny the enemy access to specific terrain for a specified time and does not ensure destruction of the attacking force. The bulk of the defending forces are deployed to retain ground using a combination of defensive positions and small mobile reserves. Commanders organize the defense around the static framework provided by the defensive positions, seeking to destroy enemy forces by

interlocking fires or by local counterattack of enemy units penetrating between defensive positions.

Both light and heavy forces may conduct area defense. When a defending force is predominantly light, such a defense is usually required. Area defense may be conducted in varying depth, depending on the mission, forces available, and the nature of the terrain. A forward defense may often be required. However, it is much more difficult to execute than a defense in greater depth due to its lack of flexibility stemming from early commitment to decisive combat. Hence, it is more dependent on rapid and accurate identification of and concentration against the enemy main effort. When area defense is conducted in depth, elements in the security area identify and control the enemy's main effort while holding off secondary thrusts. Counterattacks on the flanks of the main attack then seal off, isolate, and destroy penetrating enemy forces. Infantry forces generally conduct an area defense.

Against enemy armor and mechanized units a defense in depth is employed. Against a predominantly infantry force, a forward defense is generally appropriate. However, the commander may array his forces in any combination as a result of his estimate.

E. Brigade commanders normally conduct the defense by having the battalions defend using three basic types of defense. These are defend in

sector, defend from a battle position, defend a strong point, or a combination.

1. Defend in Sector.

A defensive sector is an area designated by boundaries that define where a unit operates and the terrain for which it is responsible. A sector is the most common defensive control measure for the battalion.

Sectors may be used in both the MBA and security area. Battalion sectors are oriented on regimental avenues of approach and are used when the situation is vague, when multiple avenues prohibit concentration, or when the commander wishes to allow maximum freedom of action to his subordinates. Sectors are generally deeper than they are wide to permit the defending unit to fight the battle in depth and to provide sufficient space for CSS assets. A commander defending a sector must defeat enemy forces within his sector boundaries, maintain his flank security, and comply with the brigade commander's intent.

Defend in sector is the least restrictive defensive operation. It allows the battalion commander to plan and execute his defense using whatever technique is necessary to accomplish the mission. He may use sectors, battle positions, strong points, or a combination of measures to accomplish his mission.

2. Defend from a Battle Position.

A battle position (BP) is a general location and orientation of forces on the ground, from which units defend. The BP can be for units from battalion to platoon. A unit assigned a battle position is located within the general area of the position. Security forces may operate well forward and to the flanks of battle positions for early detection of the enemy and for all around security. Units can maneuver in and outside of the battle position as necessary to adjust fires or to seize opportunities for offensive action in compliance with the commander's intent. Units occupying a battle position may not be tied into adjacent units. Therefore, plans for an all around defense assume greater significance.

The BP may be either enemy-oriented or terrain-oriented and is most often used:

- * To block enemy avenues of approach (deliberate or hasty defense).
- * To hold terrain determined decisive by the brigade or division commander.
- * To concentrate fires on one avenue.
- * On routes into the defender's flanks.

- * Near potential enemy airborne and air assault landing zones.

The commander may maneuver his elements freely within the assigned BP. When the commander maneuvers his forces outside the BP, he notifies the next higher commander and coordinates with adjacent units. Battalion security, CS, and CSS assets are frequently positioned outside the battle position with approval from the headquarters assigning the battle position.

3. Defend a Strong Point

A strong point is a fortified defensive position which is used to shape and control anticipated enemy penetration into the defended area. It is usually prepared by a battalion to defeat an attack from any direction. A strong point is essentially an antitank battle position that cannot be overrun or bypassed by tanks and that can be reduced by infantry only with the expenditure of much time and an overwhelming force. Strong points can be established in isolation when restrictive terrain is on its flanks. It may also be tied to defensive positions of units on its flanks.

A strong point takes several days to construct. Emphasis must be placed on overhead cover against enemy artillery attacks, and on a defense in depth through the preparation of multiple positions. The commander must realize that the preparation of a strong point is costly in terms of

manpower, engineer support, and barrier materiel; the force establishing the strong point may become isolated or lost; and as a minimum, they lose their freedom to maneuver outside the strong point.

F. These three types of defense are exercised by establishing a forward defense or a defense in depth. The technique used is based on METT-T.

1. Forward Defense.

- a. A forward defense has interlocking and overlapping observation and fields of fire along the FEBA to preclude penetration. The defender employs the bulk of his combat power well forward in the MBA to stop enemy forces as far forward of the FEBA as possible. The bulk of the maneuver units are forward to gain interlocking small arms fire within and between companies. The most likely avenues of enemy approach are weighted with combat power, while prudent risks are accepted by economizing in less likely areas. The defender relies on fighting from prepared positions and on a high volume of direct and indirect fires to stop the attacker. The reserve is usually small and is used to reinforce forward units, give depth to the defense, block penetrations, or counterattack to regain key terrain. If a small tank unit is attached, it can be used as the basis of a counterattack force if the terrain is suitable.

b. Minefields and other obstacles are positioned and covered by fire to slow and inflict casualties on the attacker. He is engaged, initially, at long ranges by violent supporting fires (tactical air, attack helicopters, and field artillery) to disrupt the momentum and synchronization of his attack. Subsequent fires from mortars, machine guns, and small arms engage him as he comes into range. Should the defense be penetrated, the enemy advance must be blocked. Counterattacks are then conducted by intense fires and minimum essential maneuver to destroy isolated or weakened enemy forces and regain vital terrain.

c. Adoption of a forward defense is appropriate when:

- * The enemy threat is primarily infantry, or natural or man-made obstacles neutralize the mobility of a mounted enemy and force him to attack dismounted.
- * Specific terrain along the FEBA must be retained.
- * Sufficient resources are available to provide adequate density of combat power across the sector to detect and stop an infantry attack.
- * Defensible terrain is available in the forward portion of the battalion's sector.

2. Defense in Depth.

a. Infantry battalion sectors may contain an approach usable by armor forces. While these approaches will normally not be suitable for major breakthrough efforts by large enemy forces, they pose a major threat to the continuity of the local defense. If penetration by mounted forces occurs, adjacent units become vulnerable to attacks from the flank and rear. These armor approaches cannot be defended by a forward array of forces. Such an array is vulnerable to being rapidly overrun or penetrated while under massive artillery, smoke, and direct fire suppression. To avoid rupture, the battalion and the brigade must array forces in depth. This requires narrower fronts and more forces.

b. This disposition of the battalion contains a series of mutually supporting antiarmor battle positions on armor restrictive terrain, protected by infantry, and strengthened by obstacles. The closer the forward positions can take on linear characteristics, the better, since infiltration by dismounted infantry is also a threat to the defender. Positions are arrayed in depth and remain in place except for local or internal movement to alternate or supplementary positions. If certain positions become untenable during the battle, they may be ordered to withdraw according to previously prepared plans. The depth of the defense is derived from the initial positioning of forces, not from maneuver.

c. This disposition is stronger against armor, but somewhat more vulnerable to infantry attack or combined arms action directed against one position at a time. Therefore, in the preparation of positions, emphasis is placed on all around security and mutual support. Each battle position should have:

- * Dug-in fighting positions with frontal cover as a minimum; positions continually improved as time and resources permit.
- * All around defense.
- * Protective mines and other obstacles to make the positions as "tank-proof" as possible.
- * Mutually supporting positions for key weapons.
- * Covered and concealed routes of resupply and withdrawal, if ordered.
- * Armor ambushes armed with Dragon and light antitank weapons (LAW) between battle positions to preclude mounted bypass during periods of limited visibility.
- * Extensive patrolling during periods of limited visibility to preclude dismounted infiltration.

d. When deploying in depth, the intent is to defeat the mounted attacker as far forward as possible, confronting him simultaneously with effective antiarmor fires from multiple battle positions as he attempts to maneuver around them. Mines, other obstacles, infantry positions, and patrols close gaps which, because of terrain masking or heavy woods, cannot be covered effectively by fire. The attacker is engaged at long ranges with fires from tactical aircraft, attack helicopters, and field artillery, then by organic antiarmor weapons positioned to deliver fires at maximum ranges from multiple directions. As the enemy closes, antiarmor weapons may move to alternate and supplementary firing positions within the battle position to continue firing and avoid being bypassed. Fields of fire are cleared to fully exploit the range of all antiarmor weapons.

G. A discussion of the defense by battlefield operating systems follows:

1. Intelligence.

a. Defense Considerations.

IEW assets in support of the defense, enable the task force commander to "see the battlefield", and provide early warning of the enemy array, intent, and actions. In order to provide early warning of enemy

intentions/ actions, and to provide targeting information, it is imperative that IEW assets be task organized and deployed early.

b. IEW Employment Considerations:

(1) GSR teams are key players to the early warning effort with detection capabilities up to 10 km (AN/PPS 5) or 3 km (AN/PPS 15) for moving vehicles and equipment. Either has the capability to see through battlefield smoke and during periods of limited visibility. In addition, their range finding capability can provide highly accurate target location data for attack by indirect fire systems.

- * GSRs must be provided a dedicated responsive reporting net to support the early warning effort. These assets should also be provided an alternate reporting net in case problems occur on the primary net.
- * GSRs are active emitters; operator proficiency is a must.
- * PPS-15s are lightweight and best utilized in restricted terrain on foot mobile avenues of approach, PPS-5s should be employed to make maximum utilization of their extended range.

- * Employ GSRs on high ground to take full advantage of their ranges and use patrols and OPs to cover GSR dead space.
- * Integrate GSRs and NODs to complement the effort and for target confirmation.
- * The supported unit, normally the battalion task force, must provide security for GSR Teams.

(2) Collection and Jamming (C & J).

- * C & J assets operate well forward in battalion sectors.
- * Voice collection teams, both manpacked and vehicle mounted, require time to displace.
- * Intercept operators must be alert to enemy deception attempts.
- * If jamming assets are available, coordination must occur between the commander, S-2, S-3, and FSO to insure integration with fire and maneuver.

(3) Long Range Surveillance (IRS) Teams.

- * Use teams to monitor along primary avenues of approach.
 - * IRS teams must minimize movement to enhance survival.
 - * Use teams where other resources cannot monitor NAIs.
- (4) Scouts.
- * Scouts need to send quick formatted messages to prevent detection by enemy DF systems.
 - * Scouts need to survive and report. Stress that they should avoid contact, remain undetected, and report activity.
 - * Consider augmenting scouts with GSPs to extend surveillance capability.
 - * Use light scouts as LPs/OPs to monitor NAIs and TAIs along avenue of approach. Heavy scouts can operate deeper and assist in counter-reconnaissance.

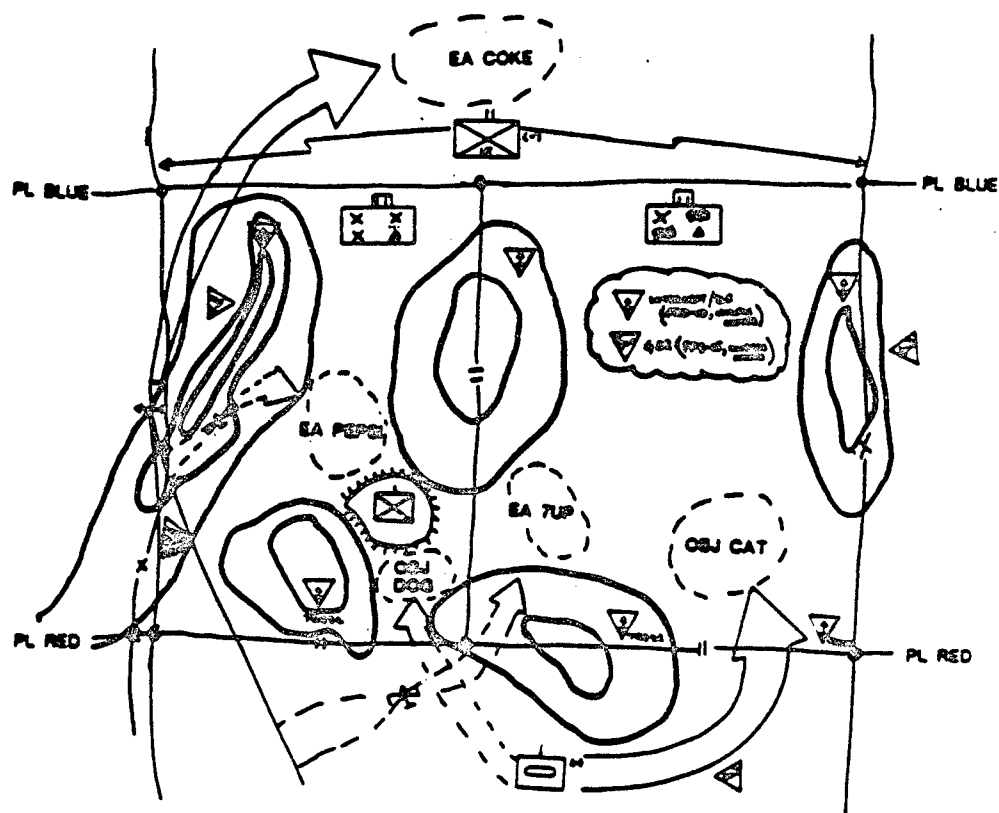


FIGURE 4-3-23. IEW ASSETS IN SUPPORT OF DEFENSIVE OPERATIONS.

The above is an example of how to employ light-heavy brigade IEW assets in a defensive sector (Figure 4-3-23). Figure shows deployment of primary IEW assets.

One GSR team is provided to the light task force in the west and one to the heavy task force in the east. The task force S-2s will plan the employment of GSR teams to support the task force commander's battle plan. The third GSR team augments the forward deployed HVY scouts to extend their surveillance capability. GSRs will include NAIs in sector of scan. GSRs are tasked to provide early warning for the counter-reconnaissance plan.

Low level voice intercept (LLVI) teams will establish positions with best line of sight to the FEBA. TRQ-32 (V2) systems (if available) will establish direction finding base-line positions behind LLVI teams. Try to position assets 2-3 km from the FEBA. During early stages of the defense, priority for collection is threat reconnaissance nets. They report terrain references or obstacle descriptions passed by threat reconnaissance. This can assist in locating threat reconnaissance units during movement through the area. Hasty ambushes can then destroy threat reconnaissance.

LRS teams monitor NAIs along avenues of approach beyond the range of GSRs targeting threat units as they move

through restricted terrain or preplanned TAI's. IRS teams report enemy primary attack route and high value targets.

Scouts play a key role in counter-reconnaissance. Heavy scouts have the mobility to screen larger areas farther forward. They can call indirect fire on threat reconnaissance elements or report locations for ambushes. Light scout employment is primarily as LPs/OPs. Consider augmenting scouts with GSR teams or elements from the AT platoon for added mobility.

Company patrol plans and LP/OPs are key to the R&S plan. They cover dead space and provide security for units. Light forces are best suited to accomplish this mission. Patrols provide 360 degree coverage for units. Request dog teams to support counter-reconnaissance operations. Bottom line counter-reconnaissance battle must be won to deny the enemy knowledge of the obstacles and positions of tank killing systems.

d. Other Planning Considerations:

- * Use REMBASS to enhance early warning.

- * Consider the integration of tank thermal sights at night and during smoke operations with IEW assets.
- * Use heavy scout night vision capability.
- * Light scouts have a small signature, excellent reconnaissance capability, and land navigation skills.
- * Deploy interrogation teams well forward to immediately exploit EPWs for combat information.

2. Maneuver.

a. Light-Heavy Brigade.

The key to a light-heavy brigade successfully conducting a defense is that the commander must maximize his combat power by offsetting the inherent weaknesses of one type of force with the inherent strengths of the other type of force. In a light-heavy defense, the heavy task force missions in support of a light brigade defense are to defend in sector, defend a battle position, defend a strong point, or serve as the brigade covering force, counterattack force or the brigade reserve. While accomplishing these missions, the heavy task force can cover obstacles with long-range direct fire, deceive the enemy as to where the main defense is, and provide long-range antiarmor fires for the light force.

(1) Defense in sector is the least restrictive to the heavy or heavy-light task force and takes advantage of the tactical mobility of the unit. The assigned sector is based upon the modified combined obstacle overlay and the enemy's most probable course of action. A single task force can defend a sector that has up to two MRR avenues of approach or up to four MRB avenues of approach. The total distance between the farthest avenues should not be more than 10-12 kilometers. This will allow part of the task force to fix the enemy attack while the remainder of the task forces maneuvers to destroy the attacker.

The heavy task force should be expected to defeat the attack of a MRR. To accomplish this, the heavy task force must be given defensible terrain and augmented with the necessary combat support, and combat service support assets.

Preparation of a defense in sector will take between 30 and 72 hours. Natural obstacles, chokepoints, and firing positions will reduce the preparation time required. Time for rehearsals of the defense and movement between positions must be allocated within this time period.

The terrain of the sector should generally be open providing long range fields of fire and observation (1800 meters to 4 or 5 km). This need sacrifices cover and concealment. The depth of the sector must allow the task force to maintain mobility and avoid decisive engagement by the enemy (typically a task force sector is 15 to 25

kilometers from FLOT to rear boundary). Sectors give battalion task forces the freedom to maneuver and decentralize fire planning to a great extent. It enables thorough planning of fires and obstacles. It allows the task force commander to distribute his teams to suit the terrain and plan a battle in depth which fully integrates direct and indirect fires. In assigning sectors to the forward battalions, the brigade commander must ensure that the defensive plans of each of the battalions are compatible, and that brigade control measures (e.g. coordination points and phase lines) are sufficient for flank coordination. If the battalions prepare their defensive plans in isolation, an assailable flank between battalions could easily occur.

When assigning defense in sector missions to heavy task forces, the brigade should consider at least the following:

- * Line of sight from their position to the EA.
- * Fields of fire to enable heavy forces to engage one or a few of the enemy targets at a time without being exposed to the entire enemy.
- * Positions where there is cover and concealment.
- * Positions where flank and rear shots can be achieved with missile systems.

- * Lateral dispersion and depth to minimize the enemy's success in suppression.
- * Maneuver room to create alternate and supplementary positions.
- * Mutual support.
- * Minimizing the effects of limited visibility.
- * Freedom to maneuver for repositioning as required.
- * Not placed on obvious terrain which would be targeted for preparatory fires.

(2) Task force battle positions are used when the brigade commander wishes to retain control over the maneuvering and positioning of his task forces. They are also used when it is necessary to rapidly concentrate task forces, and when terrain is open with good field of fire. When the brigade commander establishes battle positions, he controls maneuver outside those battle positions. He prescribes primary directions of fire by the orientation of the position and assumes responsibility for fire and maneuver planning between mutually supporting positions of different battalions.

Task force battle positions should block or dominate motorized rifle regiment (MRR) avenues of approach. A heavy task force battle position (BP) could be used to stop the first echelon attack, forcing the second echelon to stop or slow while in restrictive terrain. The task force BP should be of sufficient size to allow all company/ teams of the task force to maneuver within it (2-4 km by 4-6 km). When opportunities exist, elements of the task force can easily counterattack outside the BP to destroy the enemy or to regain terrain.

The procedure for developing task force BPs is similar to a sector. The brigade begins by positioning companies, then groups them into a BP. The task force should be assigned to occupy, prepare, or reconnaissance each BP they are assigned.

The brigade can assign company/ team BP within a task force sector for a specific mission (restricts task force commander) or they can assign on order task force BP in one or more task force sectors to concentrate fires. The task force can not defend in sector and defend a task force BP simultaneously.

(3) A strong point is rarely established by heavy-light forces. It is established only after the commander determines that a strong point is absolutely necessary to slow the enemy or to prevent a penetration of his defensive system. The decision to do so must be carefully weighed, accounting for the following factors:

- * Considerable time, barrier material, and engineer support is necessary to develop an effective strong point.
- * The force that establishes the strong point may become isolated or lost.
- * The force that establishes the strong point loses its freedom to maneuver outside the strong point.
- * The force that establishes the strong point must be given sufficient time to build the position. The more time the better.

(4) Heavy pure task forces are ideally suited as reserve or counterattack forces. Their armor protection, mobility, and communications allow them to react and maneuver when under fire. When assigned this mission, the heavy task force should be located on or near trafficable terrain which leads to its points of employment.

- * The heavy task force can successfully counterattack when the force ratio is 1:1 or better (defeat of a Motorized Rifle Battalion (MRB) or Tank Battalion (TB)). When committed it becomes the brigade main

effort. It is imperative that the commander avoid piecemeal commitment of the reserve.

- * The best employment of the counterattack force is against the enemy's rear or flanks. It should only be used frontally as a last resort. Any of these attacks can be done by maneuver and fire or by fire alone.

(5) At times, the heavy task force can be employed in spoiling attack roles to throw the enemy preparations for the attack off stride. Basic considerations that affect the use of a heavy, heavy-light task force in a spoiling attack are:

- * The spoiling attack delays, disrupts, and destroys the enemy's capability to launch his attack.
- * The objective of the attack is to destroy enemy personnel and equipment, not to secure terrain and other physical objectives.
- * Commanders may want to limit the size of the force to be used in a spoiling attack.
- * Spoiling attacks are not conducted if the loss or destruction of the force jeopardizes the ability of the

command to accomplish its defensive mission.

- * Mobility of the force available for the spoiling attack should be equal to, or exceed that of the enemy force.
- * Attack by artillery or air of enemy reinforcements is necessary to ensure the success of the attack.
- * The attacker must have a force ratio advantage greater than 3:1.

(6) In some situations, the brigade commander determines that he cannot counterattack with a reasonable chance of success. He then uses resources to contain or to delay the enemy in order to gain time for the employment of the reserve of the higher echelon.

As they plan their battle, the brigade commander and staff consider how reinforcing battalions and companies will be integrated into the defensive scheme, placement of battle positions, the routes they will use, and the command and control arrangements. The positioning and movement of reinforcements is speeded up by designating the routes and providing traffic control personnel and guides at contact points to lead and to brief them on the situation. Scouts and military police can provide traffic control.

(7) The heavy or heavy-light task force can be used as a security force forward of the brigade sector. It possesses the organic elements to find and destroy division and regimental reconnaissance forces along with the advance guard of a MRR organized for the march. The task force should cause the enemy MRR to commit forces to the main attack, identify and report this to the brigade. The task force will normally be dispersed across the entire brigade front and will not have enough time or depth of sector to defeat this attack.

(8) Examples of a Light-Heavy Brigade Employment:

(a) In restrictive terrain, against a light or light-heavy force, the brigade may defend with two light-heavy task forces forward and a heavy-light task force and attack helicopters in reserve. The heavy and light scouts establish a screen to the front. Upon completion of the screen mission, the scouts conduct stay-behind operations to direct non-attributable fires onto priority targets. The light-heavy task force conduct a forward defense in sector employing the bulk of the combat power as far forward in the MBA as possible. The most likely avenues of approach are weighted with heavy and light assets as appropriate. The intent is to defeat the enemy as far forward of the FEBA as possible. The reserve is to reinforce forward units, give depth to the defense, block penetrations, or counterattack to regain key terrain.

(b) In open terrain against a mounted threat

(heavy-light or heavy), the brigade should establish a defense in depth with battalions in battle positions and terrain permitting a strong point. A screen is established by task organized heavy-light scouts. The scouts, initially as a screen then as a stay behind force direct non-attributable fires on enemy reconnaissance units and designated priority targets. A strong point may be prepared and occupied by a light-heavy or light task force. The strong point is the hinge pin of the defense, it must be tied into restricted terrain or to defensive positions of units on its flanks. In this situation, a light-heavy task force defends from a battle position on the flank of the strong point which has the most restricted terrain. The heavy-light task force defends from a battle position on the flank with the least restrictive terrain. Engagement areas are established and supported with attack helicopters. A mechanized infantry team is held in reserve with the mission to reinforce forward units, block penetrations and to counterattack to regain key terrain.

The intent is to defeat the mounted attacker as far forward as possible, confronting him simultaneously with effective antiarmor fires from multiple battle positions as he attempts to maneuver around them. The brigades deep battle is conducted by stay-behind scouts directing non-attributable fires and by USAF CAS and BAI. The attacker cannot move through the engagement area due to the strong point and his routes of egress are blocked by FASCAM. The attacker is defeated in detail.

(c) In broken terrain against a light, light-heavy, or heavy threat, the brigade should establish its main defense on restrictive terrain. It can defend with two light-heavy task forces forward and a heavy-light team in reserve. A covering force is established with a heavy or heavy-light task force. As the enemy attacks, the covering force fires long-range direct and indirect fire to slow the enemy down. The covering force adjusts its positions and continues to fight.

As elements of the covering force approach the MBA, battle handover is executed with the MBA forces. The heavy-light task force moves to an assembly area for reorganization, then becomes the reserve. In the MBA, the light-heavy task forces conduct a forward defense in sector employing the bulk of their combat power as far forward as possible. The most likely avenues of approach are weighted as required with heavy and/or light forces as appropriate.

The reserve is initially small with missions to reinforce forward units, give depth to the defense, block penetrations or counterattack to regain key terrain. Upon link-up with the heavy-light task force, it may be employed as a counterattack force on the enemy's flank. The intent is to defeat the enemy as far forward of the FEBA as possible. The brigade's deep battle is conducted with USAF BAI and if the opportunity presents itself with a heavy or heavy-light counterattack on the enemy's flank.

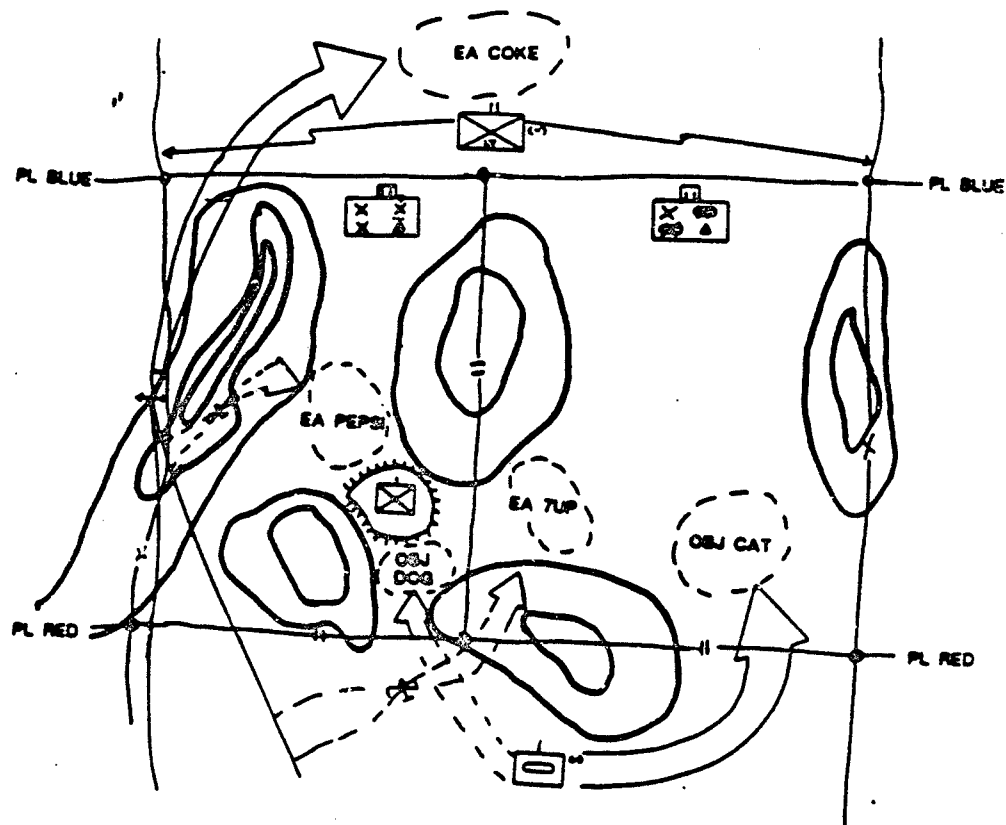


FIGURE 4-3-24. LIGHT-HEAVY BRIGADE DEFENSE IN DEPTH.

In broken to open terrain against a mounted threat
(heavy, heavy-light, motorized), the brigade can defend with

a heavy-light task force defending in depth on the primary armor avenue of approach and a light-heavy task force defending in depth on the secondary avenue of approach. In this scenario, a screen is established by a light task force to report and direct non-attributable fire on enemy reconnaissance forces. This task force becomes a stay-behind force and attacks enemy C³, CS, and CSS assets either by non-attributable fires or direct action. The reserve consists of a heavy team and attack helicopters. It is used to reinforce forward units, block penetrations and to counterattack to regain key terrain.

The intent is to defeat the mounted attacker as far forward as possible. The USAF and the light task force conducts the brigades deep operations striking at enemy C³, CS, CSS assets and reserves. As the mounted attacks moves into the various engagement areas, the enemy is confronted simultaneously with effective antiarmor fires from multiple battle positions and attack helicopters. The enemy's forward movement is blocked by obstacles and his route of egress from the engagement areas by FASCAM. The enemy is defeated in detail.

Through the IPB process the commander believes the main attack will be on the open terrain in the east with a

supporting attack on the MRB size avenue of approach in the west. He decides to destroy the enemy in the west at or before PL RED and puts his main effort there (Figure 4-3-24).

In order to protect his defensive preparations, he assigns a light battalion a screen mission and begins their movement immediately before completion of the OPORD. The light battalion is also given a stay behind mission to conduct target acquisition and to direct non-attributable fires and conduct direct action missions as required against enemy C³, CS, and CSS assets. The terrain dictates positioning of the heavy task force in the east and a light task force in the west. The restrictive terrain in the northwest part of the heavy task force sector will begin to turn the enemy attack to the east. (Once reinforced by obstacles, the need arises to protect this area and deny it to the attacker; the commander attaches a light infantry company to the heavy task force in the east.) To ensure that the light battalion can stop a mounted attack, the brigade commander supports construction of a strong point to anchor the western defense with the necessary combat support, and combat service support assets.

Recognizing he is assuming risk, he retains a tank

company as the brigade reserve. He also identifies engagement areas which reduce the risks inherent in a mobile defense by allowing the aviation task force to focus its planning effort on engagements with attack helicopters (EA COKE, PEPSI and 7UP). This can include engagement areas focused on the enemy closing with the screening force; engagement areas in the main battle area; cross-FLOT attacks into engagement areas against follow-on forces. If the battle dictates, he will commit this force into the heavy task force sector to complete the destruction of the enemy. If the attack in the west is stronger than expected, the attack helicopters provide flexibility to quickly interdict the attack.

Finally, the brigade commander attaches the TOW section of the light force conducting the screen/ stay behind mission, to the light-heavy task force in the west to increase its antiarmor capabilities.

b. Light-Heavy Task Force.

When the light-heavy task force defends in sector, the commander has four employment options for the heavy company (team); defend in sector, defend a battle position (BP), defend a strong point (SP), or task force reserve. Normally in a light-heavy task force in the defense,

the heavy company (team) is located on the main armored avenue of approach in a BP, and light companies are located in the most restrictive terrain defending in sector.

(1) A heavy CO TM can defend a battle position. When the heavy company (team) is defending a battle position, they will be given one or more of the following tasks:

- * Destroy an enemy force in an EA.
- * Block an avenue of approach.
- * Control key or decisive terrain by holding the battle position.
- * Fix the enemy force to allow another unit to maneuver.

Considerations:

- * By initially positioning forward in BPs and then displacing to subsequent BPs, the heavy company (team) affords the task force commander the opportunity to strike the enemy well forward in sector, stripping away significant combat power and disrupting his C2 before reaching the task force EA.

- * When allocating terrain for the heavy company (team), BP frontage and depth must allow for multiple fighting positions and hide positions.
- * BP must be positioned to integrate the effects of weapon systems, obstacles, and supporting fires to destroy the enemy at the point on the battlefield designated by the task force commander.
- * Target priorities by system must be designated and control measures such as trigger points and trigger lines depicted to ensure weapon systems' fires are initiated at specified ranges for rapid and maximum lethality.
- * Normally TOW, DRAGON, and 25mm chain gun fires destroy light armored vehicles and tanks. For example, the task force commander may have determined the infantry to be the greatest threat and require all systems, including tanks, to destroy infantry carriers at the maximum range.

(2) Heavy company/ team defense in sector. The battalion task force commander normally orders a defend in sector mission when:

- * Flexibility is desired.
- * Retention of specific terrain features is not necessary.
- * The battalion task force cannot concentrate fires. This can occur when the battalion defends on an extended frontage or along a cross-compartment or when multiple avenues of approach enter the battalion area of operations.

Considerations:

- * When defending in sector, the heavy company (team) will be positioned on mounted avenues of approach within the sector itself. Avenues covered may be multiple, company-sized, or a single battalion-sized avenue of approach.
- * This is a decentralized operation. The heavy company (team) commander decides what technique or combinations are used in sector with considerable attention given to flank coordination.

- * The task force commander designates phase lines for control and events or times that must be met before the heavy company (team) can pass to a subsequent position. This control is critical in a light-heavy task force due to mounted movement rates. The heavy company/ team will be decisively engaged at greater ranges (1000 to 1500m) than the light company and will not be able to displace unless concealed routes are available.

(3) Heavy company/ team defense of a strong point. When a heavy company (team) defends a strong point, it must retain the position at all costs, until ordered to withdraw. This mission is given to a company team to accomplish one or more of the following:

- * Hold key or decisive terrain critical to the battalion task force scheme of maneuver.
- * Provide a pivot for the maneuver of friendly forces.
- * Block an avenue of approach.
- * Canalize the enemy into friendly EAs.

Defense of a strong point is the least desirable

mission for a armor or mechanized force. Strong points sacrifice the mobility of the heavy weapon systems. This mission normally goes to a light-heavy team.

(4) Reserve. The best source from which the task force commander can constitute a mobile reserve is the heavy company (team), consisting perhaps of a tank section or BFV section. When assigned a reserve mission, the platoon or section must plan for the following:

- * Counterattack.
- * Defend a battle position.
- * Reinforce a battle position, sector, or strong point.
- * Assume the mission of another company/ team (this normally requires a relief in place).

(5) Counterattack. The heavy company (team) provides the task force commander the most effective counterattack force. Part or all of the heavy company (team) counterattacks to do one or more of the following:

- * Destroy enemy units.

- * Regain freedom of maneuver.
- * Regain the initiative.
- * Regain key terrain.
- * Relieve pressure on an engaged unit.

The battalion task force may execute a counterattack by fire or by fire and maneuver. A counterattack by fire is executed as follows:

- * Move to and occupy the assigned battle position (counterattack) along a covered and concealed route. Once all elements are in position, initiate fires en masse to make the best use of surprise and shock effect. Use visual signals supplemented by fire commands via FM radio to initiate fires. Establish sectors of fire before beginning the engagement.
- * Continue to engage the enemy force until it is destroyed or until ordered to move by the battalion task force commander.

(6) Integration of light-heavy forces below company may

include:

- * A light company defense in sector with an attached or OPCON tank/ BFV section or platoon to cover a mounted platoon or company AA in sector.
- * Consolidation of mechanized infantry (dismounted and light infantry in the strong point, BPs, or sectors).
- * Inclusion of a BFV or tank section in the strong point as a mobile reserve.

(7) Employment of a Light-Heavy Task Force.

(a) In restrictive terrain against a light-heavy task force, the battalion may elect to defend with two light, light-heavy teams forward and heavy or heavy-light team in reserve. The light scouts initially establish a screen to the front. The light-heavy teams conduct a forward defense in sector employing the bulk of the combat power forward to stop the enemy forward of the FEBA. The most likely avenues of approach are weighted with light and or heavy forces as appropriate. The reserve is small and is used to reinforce forward units, give depth to the defense, block penetrations, and counterattack to regain key terrain.

(b) In broken terrain against a light, light-heavy or

heavy threat, the light-heavy task force should establish main defense on restrictive terrain. If possible, it should defend with two light or light-heavy teams forward and a heavy, heavy-light team as a reserve. The light scouts establish a screen to the task force's front. In this situation, the light, light-heavy team conducts a forward defense in sector employing the bulk of their combat power well forward to stop the enemy as far forward as possible. The most likely avenues of approach are weighted as required. The reserve is a heavy, heavy-light team and is used to reinforce forward units, give depth to the defense, block penetrations, and counterattack to regain key terrain.

(c) In broken to open terrain, which contains a usable armor avenue of approach, the light-heavy task force should defend in depth with light, light-heavy and heavy, heavy-light company teams occupying battle positions and possibly a strong point. The BPs are positioned around engagement areas. If a strong point is established, it is occupied by a light or light-heavy team. This strong point becomes the hinge pin of the defense and must be tied into restrictive terrain or to defensive positions of units on the flanks. A small armor reserve is constituted. The reserve is used to reinforce forward units, give depth to the defense, block penetrations, and counterattack to regain key terrain. The intent is to defeat the mounted attacker as far forward as possible, confronting him simultaneously, with effective antiarmor fire from multiple battle positions as he attempts to maneuver around them. The attacker cannot move through the area because of obstacles to his

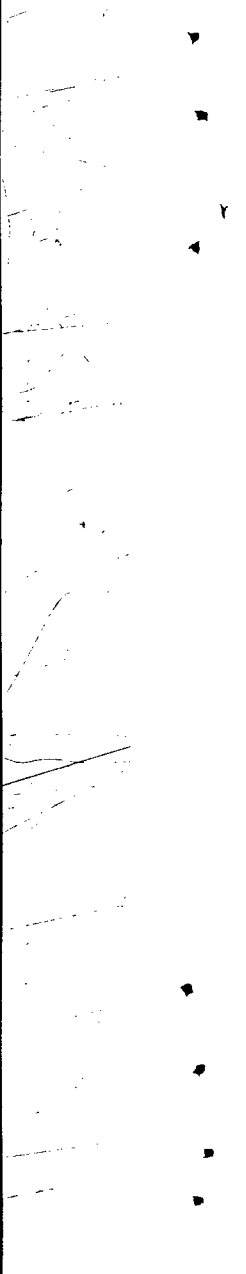


FIGURE 4-3-25. LIGHT-HEAVY TASK FORCE DEFENSE IN DEPTH.

The above is an example of a light-heavy task force defense in depth (Figure 4-3-25). An armor platoon, initially the main effort, defends forward in BP 1A1 to destroy the reconnaissance and FSE of the attacking MRB. A light company defends in sector in the west to protect the task force flank from dismounted attack and mounted attacks along platoon-sized avenues of approach. An infantry company defends from a battle position in the east to destroy enemy armor and infantry in EA. A light company with priority of fires from the battalion 81mm mortars defends the strong point to fix the enemy in EA. The antiarmor (AA) platoon occupies BP in the west to destroy enemy armor in EA.

When the enemy reaches TRP 001, the tank platoon initiates main gun and indirect fires. As the enemy closes on TRP 002 the tank platoon calls for the 81mm FPF and displaces to BP 1A2. The AA platoon initiates fires as the enemy passes through BP 1A1. As the enemy enters in the engagement area, it is blocked by the strong point. Obstacles protect the infantry, turning vehicles to expose flanks to the infantry's 1000-meter antiarmor systems. At this point, the massing of direct (to include attack helicopters) and indirect fires in the EA completes the destruction of the enemy battalion.

c. Heavy-Light Task Force.

When the heavy-light task force defends in sector, the commander has three employment options for the light company: defend in sector, defend a battle position (BP), or defend a strong point.

(1) When considering employment of a light company in a BP, the commander considers the vulnerability of light infantry to indirect fires and mechanized or armored forces. A light company may be placed in a BP to accomplish the following tasks:

- * Secure obstacles, disrupting enemy breaching attempts.
- * Block a very restrictive avenue of approach.
- * Shape the battlefield by denying key terrain. The defense is not force, but terrain oriented; therefore, the presence of a light company may turn the force into task force's main effort.
- * Secure a flank.

(2) The defense in sector is the least restrictive for a light company and most conducive for its survival. Light company/teams are assigned sectors in highly restrictive terrain with considerable

cross-compartmentalization and multiple dismounted avenues of approach. Execution is very decentralized and characterized by platoon sectors with multiple team, and squad ambushes.

(3) Unlike the heavy company (team), the light company is suited for strong point defense. However, the light vulnerability to indirect fire and armored forces dictates that extensive engineer assets and time must be allocated for preparation. A strong point positioned in depth may serve to fix the enemy to facilitate their destruction in the task force engagement area or block the penetration of the task force rear boundary by surviving elements.

As with the light-heavy force, there are no absolutes concerning task organization. METT-T may justify the attachment of a light squad or platoon to an armor platoon or company for security or the OPCON of a tank or BFV element to the light company to enhance its antiarmor capability.

Due to limited mobility and antiarmor capability, the use of the light company as an effective reserve or counterattack force under most situations, with the exception of MOU, is not feasible.

(4) Employment concept for a heavy-light task force.

(a) In restricted terrain, a heavy-light task force

should be employed as a brigade reserve to reinforce forward units, give depth to the defense, block penetrations, counterattack to regain key terrain or if a mounted approach is available against an open enemy flank to envelope and defeat him.

(b) In open terrain against a mounted threat, the heavy-light task force should defend in depth with heavy, heavy-light and light teams occupying battle positions. Light or light-heavy company teams occupy battle positions on the most restricted terrain while heavy or heavy-light teams occupy battle positions on the least restricted terrain. Battle positions are established around engagement areas. If terrain permits, a strong point may be established with a light or light-heavy team. If used, the strong point is the hinge pin of the defense and must be tied into restrictive terrain or the defense positions of units on the flank.

A small armor reserve is retained. The reserve is used to reinforce forward units, give depth to the defense, block penetrations, and counterattack to regain key terrain. The intent is to defeat the mounted attacker as far forward as possible, confronting him simultaneously with effective antiarmor fire from multiple battle positions. The attacker is unable to move through the area because of obstacles and a possible strong point. His route of withdrawal is blocked with FASCAM. The attacker is defeated in detail.

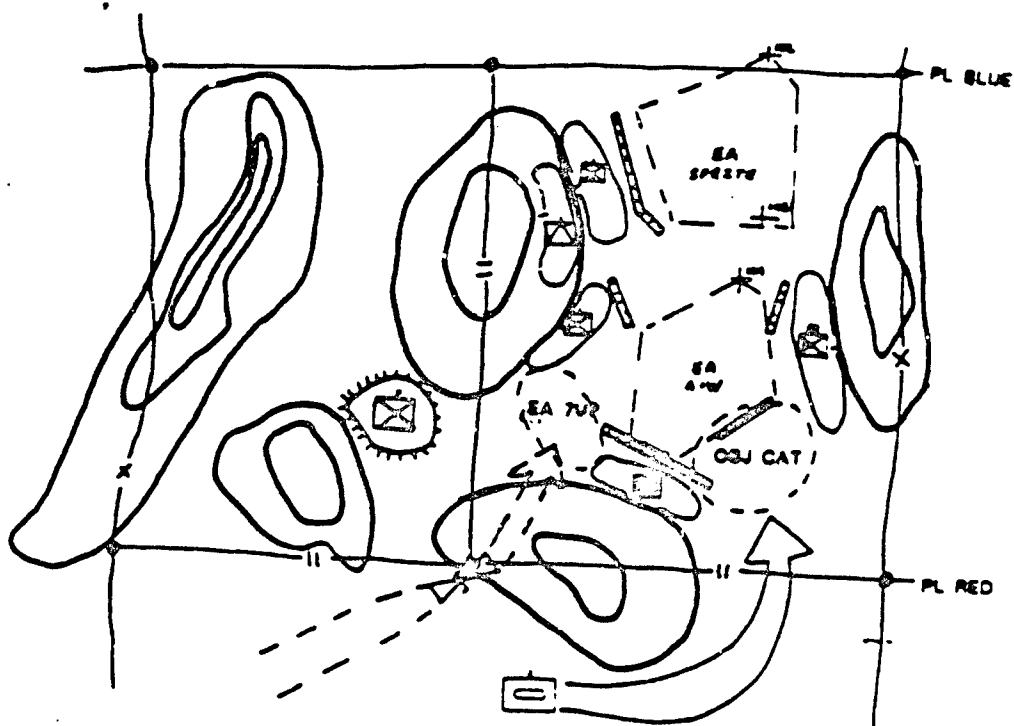


FIGURE 4-3-26. HEAVY-LIGHT DEFENSE IN DEPTH.

The above is an example of a heavy-light task force defense in sector. A light company defends forward in a BP in the west to secure obstacles, the AA company, and to deny high ground in the west. A mech company defends in the

southwest and a mech team in the east to destroy enemy in the EA. A tank team defends in the south to fix the enemy in the EA.

When the enemy reaches TRP 102, the AA company fires TOW and indirect fires. As movement continues, the light company defeats any breach attempt. At TRP 103, the mech units initiate TOW fires destroying tanks. At TRP 104, 50% of BFVs revert to 25mm fire to defeat enemy infantry carriers. Tanks begin main gun engagements to complete the destruction of enemy tanks. The destruction of the enemy battalion or battalions is completed in detail in the EA by mass direct, indirect fires and counterattack.

(c) In broken terrain, the heavy-light task force defends with a light and heavy team conducting a defense in sector. A light or light-heavy team conducts a forward defense on the restricted terrain. The heavy, heavy-light team conduct a defense in depth on open terrain. A heavy team is kept in reserve. The intent is for the light/light-heavy team to defeat the enemy as far forward of the FEBA as possible protecting the heavy, heavy-light team's flank. The heavy, heavy-light force will establish battle positions around an engagement area(s) to defeat the mounted attacker as far forward as possible, confronting him simultaneously with effective antiarmor fire from multiple battle positions as he attempts to maneuver around them. The attacker

will be unable to move through the area because of blocking obstacles. His route of egress will be blocked by FASCAM. the attacker will be defeated in detail. If necessary, the reserve will be used to reinforce forward units, give depth to the defense, block penetrations, and counterattack to regain key terrain.

3. Fire Support.

a. Positioning of the 105mm DS battalion in the defensive sector is an important aspect of fire support. Because of limited range, the system needs to be positioned far forward to engage the enemy as early as possible. An effective technique is to position GS/GSR artillery assets forward with four-fifths of the weapons range beyond the FLOT. Firing platoons/ batteries should be positioned off likely enemy approach route. Direct support and reinforcing artillery should be positioned with one-third of the weapon's range beyond the FLOT. Control of all indirect fire assets should be centralized to facilitate massing fires in the defense. As the FLOT moves back, general support/ general support reinforcing units should be pulled back to hardened prepared firing positions. The firing positions should attempt to maintain four-fifths of the weapons range across the FLOT.

(1) Positions must be coordinated with the maneuver force because of competition for terrain. Initial positions need not be

hardened or dug in by engineer assets. It is more important to harden second and third positions because the artillery will have to stay and fight from those positions.

(2) The movement of the batteries must be coordinated to ensure that fire support is continuous and responsive. The routes must be coordinated with the engineers and other forces controlling obstacles so that friendly artillery is not blocked by friendly obstacles. The movement of artillery must be keyed to certain events or decision points.

(3) The indirect battle will change as the battle changes. Initially, fires will be at extended ranges to break-up and disrupt formations and force the enemy to deploy early. At decision points established by the maneuver commander, the artillery will begin its movement (not all at the same time) and mortars will begin to engage front line enemy units. The displacement technique used may be by battery or by platoon. If a reinforcing unit is available, the method would be by battery. If fire support assets are limited, the displacement may be by section with shorter moves to maintain some fire support. (See discussion on type of targets to be attacked by type indirect system.) The selection of the movement decision point will be determined by distance to displace and estimated time necessary to displace and reestablish a firing capability. Mortars (60mm, 81mm, and 107mm) must be in a forward position, hardened by engineers to pick up fire support as the artillery moves. If a reinforcing artillery unit is available, it can assist the DS

unit by picking up the calls for fire and priority targets of the moving DS unit.

(4) The reinforcing unit positions must also be coordinated with the maneuver force that controls the terrain. Its primary mission will be counterfire, special munitions (ADAM/RAAMS, COPPERHEAD) and the engagement of hard targets. (See separate discussions on each area.)

b. Indirect systems have a variety of ammunition and forces available and to achieve the desired effects of the commander. The assignment of target types or mission types to an indirect system will yield better results. Selection of the proper system/ munition to attack each target type is critical to fire planning.

(1) The mortars systems have four basic types of ammunition; HE, ILLUM, WP. (Some fuze options exist for air burst, impact, and delay.) Because of the rapid rate of fire, the mortars are very effective in smoke missions and illumination missions. The destructive power of the HE projectile is limited but very effective against personnel targets on the reverse slope of hills and targets that are in defilade, especially if VT or time fuse is used.

(2) The 105mm artillery system has a wide variety of ammunition available to attack targets. Like the mortar, the 105 howitzer fires HE, ILLUM and WP. Additionally, this system fires HC smoke, ICM,

anti-personnel (BEEHIVE), and HEAT and HEP-T projectiles. HC Smoke has a longer duration time and is normally employed after WP from artillery or mortars. ICM is very useful against personnel in open areas and dismounted forces attempting to breach obstacles. Another ammunition choice for these types of targets is HE projectiles with VT fuzes. The anti-personnel round is used primarily for battery perimeter defense and the HEAT and HEP-T projectiles are also used for direct fire against vehicles and lightly armored targets. The HE projectile can be used against a variety of targets. The best target types are soft-skinned wheeled vehicles and personnel. The 105 howitzer has limited effectiveness against heavy armor normally found on tanks. HE/VT and WP mix is very effective against soft targets containing fuel and ammunition (FARP's etc.).

(3) The 155mm howitzer has ammunition available for the attack of armored targets. The DPICM projectile can be used on both hard and soft targets and has a better firepower kill ability than HE. The 155 HE projectile produces better results against hard targets than the 105 HE, but again it is not the first projectile of choice. The 155 howitzer also has ADAM/RAAMS projectiles for scatterable mines and the Copperhead (CPHD) projectile. The Copperhead projectile is a smart munition that requires reflected laser energy to guide it onto the target. Designed for the attack of armor targets, it should be used against high payoff armor targets such as command and control vehicles, air defense systems, and other armor targets. CPHD may be effectively used against moving

targets. COLT teams, positioned forward on the battlefield provide a surgical capability with precision munitions. Like the other indirect fire systems, the 155 howitzer fires HE, ILLUM, WP, and HC Smoke.

(4) The indirect systems should be employed in place where the target types best suited for their ammunition capabilities exist or are expected to appear. Detailed consideration during planning must be done to attack the right target with the right system. FSEs and FDCs must monitor calls for fire and listen to targets types to get the best effects. Calls for fire on armor type targets should be passed to 155 systems if possible. If not (no reinforcing unit available), 105 munitions should be used to force the enemy to button-up and move into direct fire engagement areas. This should be a part of the plan. Dismounted forces, wheeled and light armored forces should be engaged with the lowest means capable of attacking the target (start with mortars).

c. The employment of combat observation laser teams (COLT) must be managed by the fire support coordinator (FSCCOORD) and fire support officer (FSO) at brigade. The light brigade has one COLT and it is dismounted. A heavy maneuver battalion has four fire support team vehicle (FIST-V) systems with laser designation capability. The G/VLLD system used by these teams requires optical line of sight in order for the laser to function properly. It can lase a stationary target to 5 km and a moving target to 3 km. They should be employed on likely enemy armor avenues of approach and tied into the antiarmor engagement areas. The

COLT/FIST-V can attack command and control assets prior to antiarmor systems engaging the other armored targets. The dismounted light COLT should be employed with the FIST-V to increase its mobility. These assets should be employed in pairs to support each other and should have a series of primary and alternate positions planned.

d. The light force is very vulnerable to enemy indirect fires. The counterfire battle is fought by a variety of assets. The entire counterfire plan must include EW, Air Force, ground forces, mortars, and artillery.

(1) EW assets can be used to jam enemy fire nets at the time of attack or used to direction find (DF) enemy command and control nodes for attack by friendly systems.

(2) The Air Force, ground force, and artillery are all lethal attack means against enemy indirect fire systems. Enemy indirect fire systems must be a priority intelligence requirement for intelligence assets. Once identified, enemy artillery assets must be targeted and destroyed.

(3) Light artillery possesses the capability to conduct reactive counterfire with the organic Q36 radar. This system should be positioned with several factors in mind. The first is system survivability. Hardening the position and positioning behind a screen

crest will reduce its signature and increase its survivability. It also must be positioned to maximize its range (20 km artillery, 12.5 km mortars).

The most likely enemy action also must be considered. The radar should be oriented where the most likely enemy attack will occur or where the commander wants the fight to occur. A cueing system must be worked out as to who has the authority to cue, what are the events that will initiate the cue, and on what frequency.

The establishment of a quick fire channel also allows for immediate engagement of enemy systems. The counterfire mission should not be the responsibility of the direct support artillery unit if possible. Responsibility for counterfire is normally assigned to an artillery unit with a GS or GSR mission.

The commanders' desires and the location of friendly fires to the enemy indirect fires must also be considered. In some cases, enemy mortar fire detected close to friendly forces may not be engaged by counter battery fire, but passed to the maneuver force for engagement.

(4) The assignment of zones to the radar system enhances the detection and engagement of enemy mortar and artillery assets.

* Critical Friendly Zone: A friendly area that is deemed

critical and if any enemy indirect fire is received in the area, an automatic counterfire mission is sent to a firing unit.

- * Primary (Call for Fire) Zone: An enemy area where indirect assets are suspected or known and if the enemy fires from there an automatic fire mission is generated.
- * Artillery Target Intelligence Zone: This zone does not generate a fire mission. It provides intelligence on enemy indirect firing unit location. This information is normally on enemy indirect firing units that are firing but not affecting friendly forces.
- * Censor Zone: This zone does not generate a fire mission. In this zone, if an enemy artillery unit fires from it, the radar is told to disregard this information. The primary use of this zone is when friendly forces are inserted deep and have some type of indirect fire capability with them that may be firing back towards the main force.

When zones are used, the requirement to cue the radar is eased. The cueing and operation of the radar is dependent on the

enemy's capability to identify and attack friendly radar emissions. In a low electronic threat environment, the radar may be able to operate more often and possibly continuously.

In addition to the organic Q36 radar, the corps target acquisition detachment has Q37 radars that can be requested. The added benefits of increased range (50 km artillery, 24 km mortars) and a wider search zone allows the unit to see deeper into the enemy area.

e. The time required for movement of the indirect fire systems (both artillery and mortars) and the possibility of additional survivability moves, degrades the ability to service targets in a timely manner. To offset this, the fire planner may want to have an indirect fire system without a priority target. This system will then pick up the priority target while the dedicated system is displacing. This allows for continuous responsive fires and precludes a firing unit from trying to respond to priority targets while moving.

f. The possibility exists that reinforcing artillery units may be TACFIRE (digital) capable. In this case the reinforcing artillery liaison section will bring a VFMED to the DS (non-digital) TOC. This will facilitate digital fire planning between the two artillery battalions. The execution of the fire plan will be done by voice if either unit is not TACFIRE capable. This may require training for both observers from the heavy unit and the reinforcing artillery unit in the processing of voice

calls for fire.

g. During defensive operations, light forces may be employed to conduct cross FLOT operations as a stay behind or infiltration force. Fire control measures are required to reduce the likelihood of fratricide. An effective planning technique is to establish a series of overlapping restricted fire areas (RFAs). Activation and closure of the RFAs should be time dependent. This places responsibility for troop safety on the maneuver commander. This technique eliminates the need to track units down to squad size at brigade or higher levels.

h. The use of ADAM/RAAMS munitions in the defense must be planned very carefully. These munitions must be tied to the engineer plan and have a purpose in the overall scheme of maneuver. While very useful, there are some major considerations when planning and executing this mission.

(1) Time is a critical factor for the artillery unit. Emplacement time is dependent on the size of the minefield, the number of aim points, desired density, the angle of fire (angle T), how many units are firing, and if it is preplanned or a target of opportunity. A standard 400 x 400 FASCAM minefield can take 20-45 minutes to emplace. Additionally, the firing units will most likely need to conduct a survivability move after firing.

(2) The safety zone around the minefield is also a major consideration. Based on delivery technique, size of minefield and number of aim points, the safety zone could be as large as 1400m X 1400m. This is a significant piece of terrain that must remain clear of friendly forces while the minefield is active.

(3) The short duration minefield lasts for approximately six hours (UNCLOS). The timing of employment is something that must be very detailed. Trigger points must be used with decision points so the minefield is in place when needed. An additional consideration in this area is that while an artillery unit is firing a FASCAM mission it cannot respond to other targets.

(4) A FASCAM minefield, like any minefield, is as much a hindrance to friendly forces as it is to the enemy. Follow-on missions and possible counterattack routes must be considered when deciding where to place FASCAM.

(5) Before any execution of FASCAM munitions can be done, it must be determined if the maneuver unit has employment authority. The corps commander is the allocator of authority. He directs if short duration can be allocated to brigades and battalions. Long duration will be allocated to division only. If a division receives authority to employ short duration ADAM/RAAMS, that does not mean that the division can suballocate authority to its subordinate brigades without permission of

the corps commander. In a contingency operation involving a lone brigade, authority for long and short duration FASCAM may be given to the contingency brigade task force commander.

4. Mobility/ Countermobility/ Survivability.

a. Light-Heavy Brigade.

Obstacle zones are used to control brigade tactical obstacle emplacement and maintain freedom of maneuver for future operations. Additionally, obstacle restrictions may be assigned to certain zones based on the friendly tactical situation or political ramifications of obstacle employment. Examples are restricting the use of long duration scatterable mines, tank ditches, bridge demolition, or burying mines.

The brigade uses obstacle belts to synchronize task force tactical obstacle effort. Each belt is assigned an obstacle intent (i.e. disrupt, turn, fix, or block). The force mix of heavy and light forces, respective weapons capability, and effects of terrain on enemy maneuver are primary considerations for developing obstacle belts and intents. The illustration following (Figure 4-3-27) shows how obstacle belts and intents are used to synchronize obstacle effort within the brigade. The belt restricts the emplacement of obstacles on the battlefield to support the

commander's concept. The obstacle intent graphics convey how obstacles within the belt should be designed to attack enemy maneuver and their relationship to the force allocation and direct fire fight.

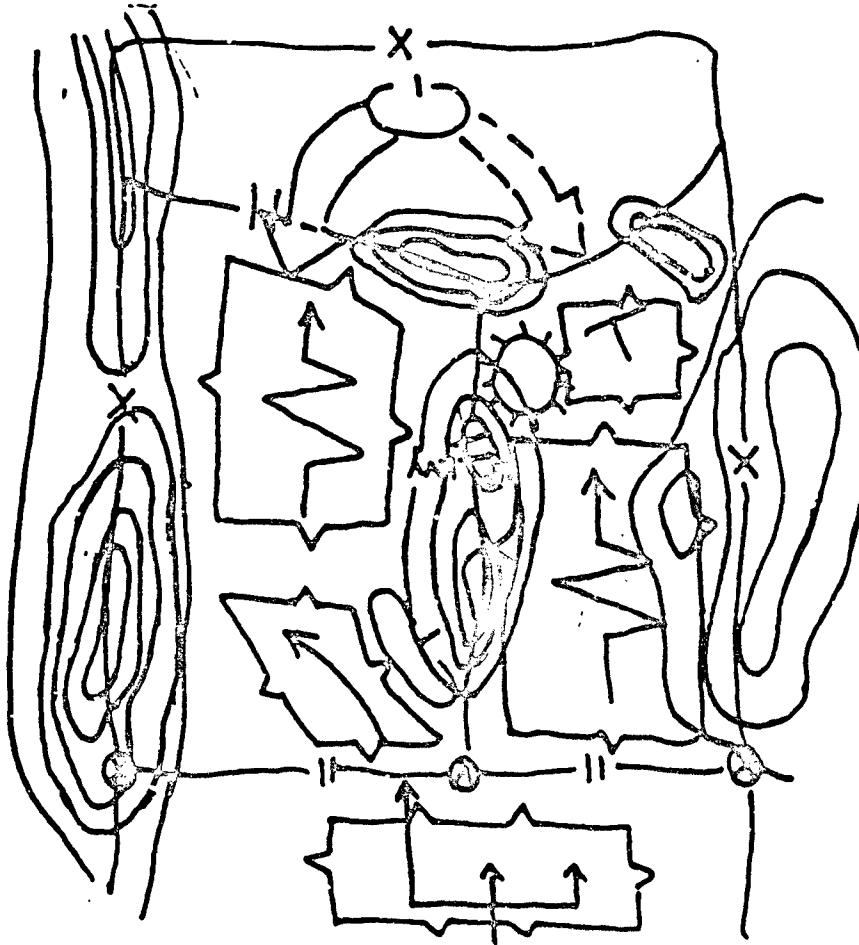


FIGURE 4-3-27. LIGHT-HEAVY OBSTACLE BELTS.

During the defense for example, a commander may shift the priority of engineer equipment effort to supporting the forward battalion with counter mobility/ survivability assets. Engineer assets used for MSR maintenance are allocated to task forces for survivability. The wheeled engineer company/ platoons priority effort shifts from sustainment operations in the lodgement area to augmenting light engineer assets with blade, haul and manpower assets.

The DTOC/DTAC begins facilitating the forward movement of obstacle material from the ammunition transfer point (ATP) and Class IV supply point at the lodgement area to the designated obstacle zones. Obstacle material packages are configured, by the corps wheeled engineer company, into throughput serials that move along the MSR to task force logistic release points where they link up with a task force logistics or engineer representative; who moves the serial to a download point of task force choosing. Medium lift helicopters are used to move barrier material from the lodgement to the brigade area if the movement becomes a division priority mission.

The brigade allocates the light, heavy, and wheeled engineer platoons as well as critical equipment assets available in the engineer task force to the light and heavy

based task forces, by METT-T. As a general rule, light and mechanized engineer companies form the base headquarters supporting their respective type maneuver forces.

The brigade manages and controls the movement of obstacle material from the lodgement area forward to task force designated engineer forward supply points. The brigade must make every effort to deliver obstacle material as far forward as possible and minimize the amount of load transfers. One technique is to dedicate wheeled engineer assets to the job of hauling obstacle material for the brigade with priority of haul augmentation to the light engineer forces. Another technique is to use the augmented FAST (or light FSB) transportation assets and organize obstacle material packages into thru put serials that link up with the light task force at the designated logistical release points (LRPs) and deliver the material to engineers forward supply point under the control of the task force S-4/Engineer.

The brigade allocates mechanized engineer platoons to light task forces to weight the emplacement of tactical obstacle belts. Tactical obstacle belts by their nature require use of extensive materials over a relatively wide area. These characteristics make the mission difficult for

the light engineer without augmentation. In the light-heavy defense, tactical obstacles are usually covered by the fires of the heavy force because of their weapons capabilities; allocating mechanized forces to emplace these tactical obstacles also capitalizes on the habitual relationship between like forces. At a minimum, light engineers with the mission of emplacing significant tactical obstacles must be augmented by haul assets.

The brigade allocates light engineer platoons to heavy-light task forces to support the allocated light infantry and/or to weight the protective obstacle effort of either heavy or light forces. Protective obstacles generally do not require extensive materials and equipment; they are manpower intensive. Moreover, emplacement is confined to a specific area requiring little transport of men and material once on site. Protective obstacles emplacement is completely within the capabilities of the light engineer and capitalizes on his expertise.

Priority of blade assets shifts from sustainment engineering to task force survivability. Again, assets are allocated to task forces based on force structure and mission. Priority of ACEs and dozers is to mechanized and armor vehicle positions. Priority of SEEs, backhoes,

loaders, and trenchers is to light infantry survivability.

In the example, the brigade is defending with a light-heavy task force defending in sector to the left. Fixing obstacles are ideal with the combination of light forces and restrictive terrain, and allow the task force commander to fight the entire depth of his sector and avoid decisive engagement. To focus the main effort of the task force, the brigade commander has designated a company strong point. This will require extensive protective obstacle effort by its nature. The brigade commander further focuses the countermobility effort of the task force by tying a blocking belt into the strong point where he wants the penetration stopped. The combination of a strong point and blocking obstacles is an effective technique. The strong point prevents the enemy from bypassing the blocking obstacles. Heavy forces allocated to the light-heavy task force should be positioned to shift their final protective fires to cover the blocking obstacle and complete the enemy's destruction.

The brigade is defending with a heavy-light task force to the right. The commander has designated a company BP for the light infantry company anchoring the task force left

boundary. A turning obstacle belt has been designated in front of the light infantry BP to convey the commander's intent to use the combination of turning obstacles and light infantry to turn the enemy attack into the BDE and task force main effort. A fixing obstacle belt has been used to define the main killing ground for the task force defense and allows the commander to organize his defense using the standoff and depth.

Last, the brigade commander has used a light battalion in a forward defense to provide early detection of the main effort, disrupt the enemy attack to shape the battle, and directly attack enemy command and control, combat support and combat service support assets. To assist in this effort, the brigade has designated a disrupting obstacle belt with the intent of allowing the enemy to piecemeal his force into the brigade main effort. Along with the light engineer support, the brigade has allocated most of its scatterable mine assets to the disrupting effort. The use of scatterable mines must be tightly integrated into the decision support template (DST).

The brigade obstacle intent becomes the focal point of

integration of obstacle effects with the scheme of indirect fires. Initial priority of fires is to the light battalion as it disrupts the enemy and attacks C2 and CSS assets. Based on successful shaping of the enemy maneuver into the heavy-light task force sector, priority shifts. Artillery groups are fired sequentially in the fixing obstacle belts with final protective fires being fired at trigger lines deep in the engagement area. The same logic of fire support applies to the light-heavy task force if they receive the enemy's main effort.

b. Light-heavy, Heavy-light Task Force.

The critical task in obstacle employment at the task force level is the effective integration of tactical obstacle effects and direct fire organization of engagement areas. The task force uses obstacle groups to designate where tactical obstacle effects (disrupt, turn, fix, and block) are to be employed to attack enemy maneuver to the defender's advantage. Considerations for employment of obstacle groups to support light and heavy forces are similar to those used to develop brigade obstacle belts. The relationship between obstacle belts and obstacle groups is the same as between engagement area and target reference point (TRP). The belt concentrates obstacle effort in an area to accomplish an overall effect. Obstacle groups focus on linking one or more specific obstacle effects to the direct fire plan. The combination of groups and

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direct fires must accomplish the intent of the belt.

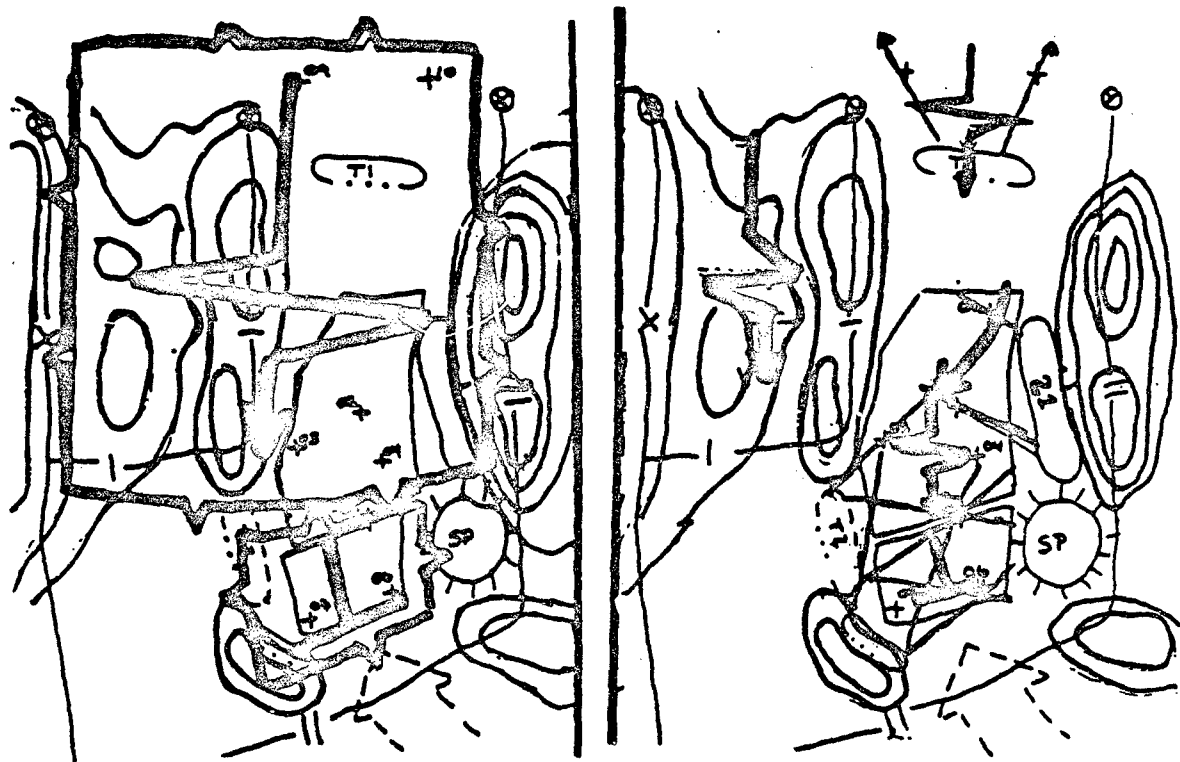


FIGURE 4-3-28. LIGHT-HEAVY TASK FORCE DEFENSIVE OBSTACLE PLAN.

Shown above-left is the example light-heavy task force defense now complete with the task force maneuver graphics and brigade obstacle belts. On the right is the task force with the obstacle groups. Note how the groups are linked to

the direct fire plan and accomplish the belt intent. The commander intends to use fixing obstacles to support the company sector defense to allow that force to fight the entire sector with multiple concentrations of fires and obstacles. The task force main effort uses a series of turning, fixing, and blocking groups.

The light infantry in BP 21 anchors the turning obstacle, massing their fires initially on TRP 01 and shifting to TRP 02. The fight is picked up by a combination of AT fires from the SP, BP 21, and tank fires from BP T2, all massed on TRPs 03, 04, and 05, supported by a fixing obstacle group. Light forces are not effective covering fixing obstacles in open terrain; effective coverage requires a combination of the long range capability of AT systems and the high volume fires of tanks and/or Bradley's. Finally, all fires shift to TRP 07 and 06, where the combination of SP blocking obstacle group and FPF will defeat the stop the enemy advance.

The mechanized engineer platoon(s) augmenting light engineers offer that force the capability of rapidly emplacing obstacles requiring extensive materials over wide areas. Therefore, the light engineer should make tactical obstacle emplacement a priority for the mechanized platoon(s). The light engineer uses the mechanized platoon as

a rapid obstacle emplacement reserve after sector preparations are complete. The mission of a rapid obstacle reserve is to be prepared to quickly emplace mines in response to an unforeseen penetration or move forward immediately after an attack to repair breached minefields. The light engineer may also use mechanized engineers as lane closure parties for closing obstacle lanes or executing reserve targets well forward in engagement areas because of their ability to move rapidly under armor.

The heavy engineer augmented with light engineers must make every effort to augment the light force with the necessary equipment and haul assets. Priority of light engineer effort is to supporting light infantry defensive preparations and obstacle effort and then to emplacing tactically significant protective obstacles. Light engineers may also move forward with stealth to prepare disrupting obstacles well forward. The heavy engineer should consider using the light engineers to conduct obstacle counter recon patrols operating out of CO BPs. The mission of the obstacle counter recon patrol is to survey critical obstacles, report enemy attempts to conduct pre-attack breaches, and make on-the-spot repairs.

Below is the heavy-light task force defense plan shown on the left with the brigade obstacle belts, and on the right, with the obstacle groups. Again, the commander has used his light infantry to anchor the forward edge of his defense and the turning obstacle group. The relative short

range of the infantry's AT systems makes the synchronization between obstacle and fires critical. The company's fires must be held until the precise moment the enemy realizes he is in an obstacle. Then fires must be massed until he chooses to bypass in the desired direction.

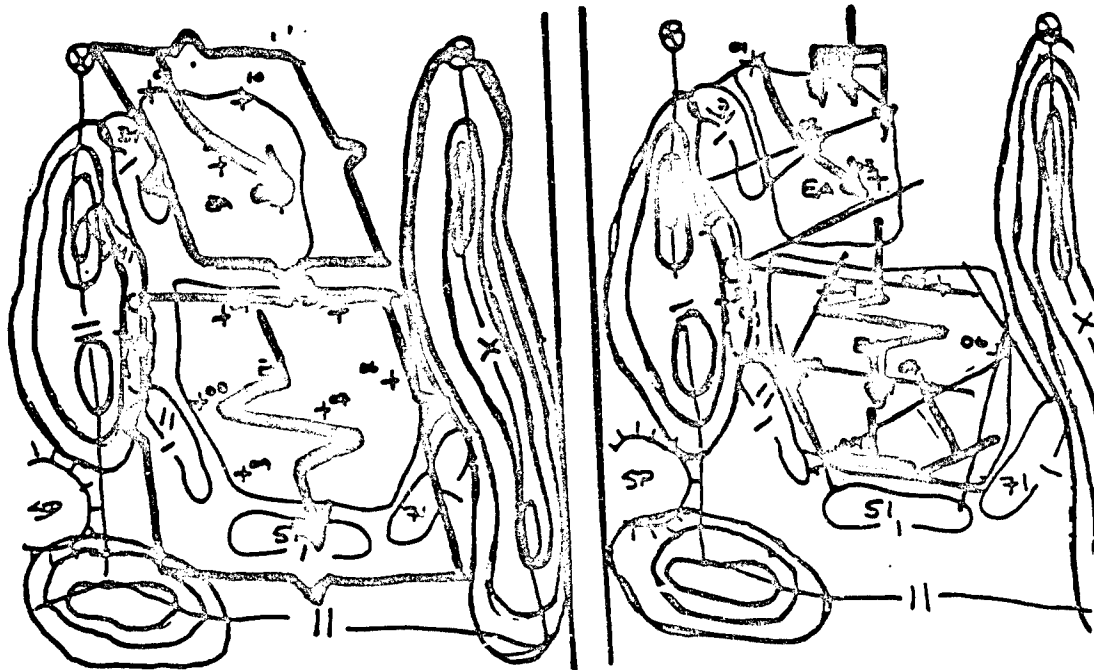


FIGURE 4-3-29. HEAVY-LIGHT DEFENSIVE OBSTACLE PLAN.

To assist the light infantry in turning the enemy, a technique is to shape the enemy's maneuver further forward

with disrupting obstacles covered by long range AT systems and indirect. In this case, the AT company initially masses fires on TRP 02 and the disrupting obstacles. The AT company shifts its fires to TRP 03 once the turning obstacle begins to take effect, to maintain pressure on the enemy as it maneuvers beyond the range of the light infantry. The rest of the obstacle groups are employed using the same direct fire consideration mentioned above. The important point to notice is how obstacle groups are linked to the organization of direct fire effects.

The task force designates priority obstacle effects which focus the engineer's obstacle effort. Obstacle effects that are deemed critical to the task force fight are designated the highest priority and generally fall to the mechanized engineer force to emplace.

The task force designates the priority for use of blade assets to countermobility or survivability. Within survivability, the task force further designates priorities by weapon type, unit, and battle position. Priority of SEE, backhoe, loader, and entrenchment equipment usually goes to light infantry in strong points, light infantry anchoring obstacle groups, other light infantry, and then mechanized infantry. Priority of ACE and dozers usually goes to mechanized forces; the highest priority for weapons is based on mission and terrain.

Mechanized engineer platoon(s) augmenting light engineers offer that force the capability of rapidly emplacing obstacles requiring extensive materials over wide areas. Therefore, the light engineer should make tactical obstacle emplacement a priority for the mechanized platoon(s). The light engineer uses the mechanized platoon as a rapid obstacle reserve after sector preparations are complete. The mission of a rapid obstacle reserve is to be prepared to quickly emplace mines in response to an unforeseen penetration or move forward immediately after an attack to repair breached minefields. Light engineers may also use mechanized engineers as lane closure parties for closing obstacle lanes or executing reserve targets well forward in engagement areas because of their ability to move rapidly under armor.

The heavy engineer augmented with light engineers must make every effort to augment the light force with the necessary equipment and haul assets. Priority of light engineer effort is to supporting light infantry defensive preparations and obstacle effort and then to emplacing tactically significant protective obstacles. Light engineers may also move forward with stealth to prepare disrupting obstacles well forward. The heavy engineer should consider using light engineers to conduct obstacle counter-reconnaissance patrols operating. The mission of the obstacle counter-reconnaissance patrol is to survey critical obstacles, report enemy attempts to conduct pre-attack breaches, and make on the spot repairs on emplaced obstacles.

5. Air Defense.

In the defense, the battery commander of the air defense battery attached to the light brigade should be the overall air defense commander. The air defense platoon from the heavy task force should be OPCON to the light air defense battery for command and control. This will lessen any logistics problems caused by the Self propelled Vulcans, which the light air defense battery cannot handle.

The light battalions must utilize passive air defense measures while in the defense (i.e. concealment, harden protection, camouflage). This will lessen the necessity for air defense coverage of the combat units. The SP Vulcans should prepare good firing positions and use terrain to create protection for themselves.

Since the air defense assets available are limited, the air defense battery commander must obtain the brigade commander's air defense priorities and appropriately allocate his forces and provide input to the A²C² system. Since the light battalions can utilize passive air defense measures, less air defense assets are required to protect them. Each light battalion should be given a towed Vulcan platoon and five Stinger teams in a direct support role. The towed Vulcans can provide ground support for the light battalion as well as providing air defense.

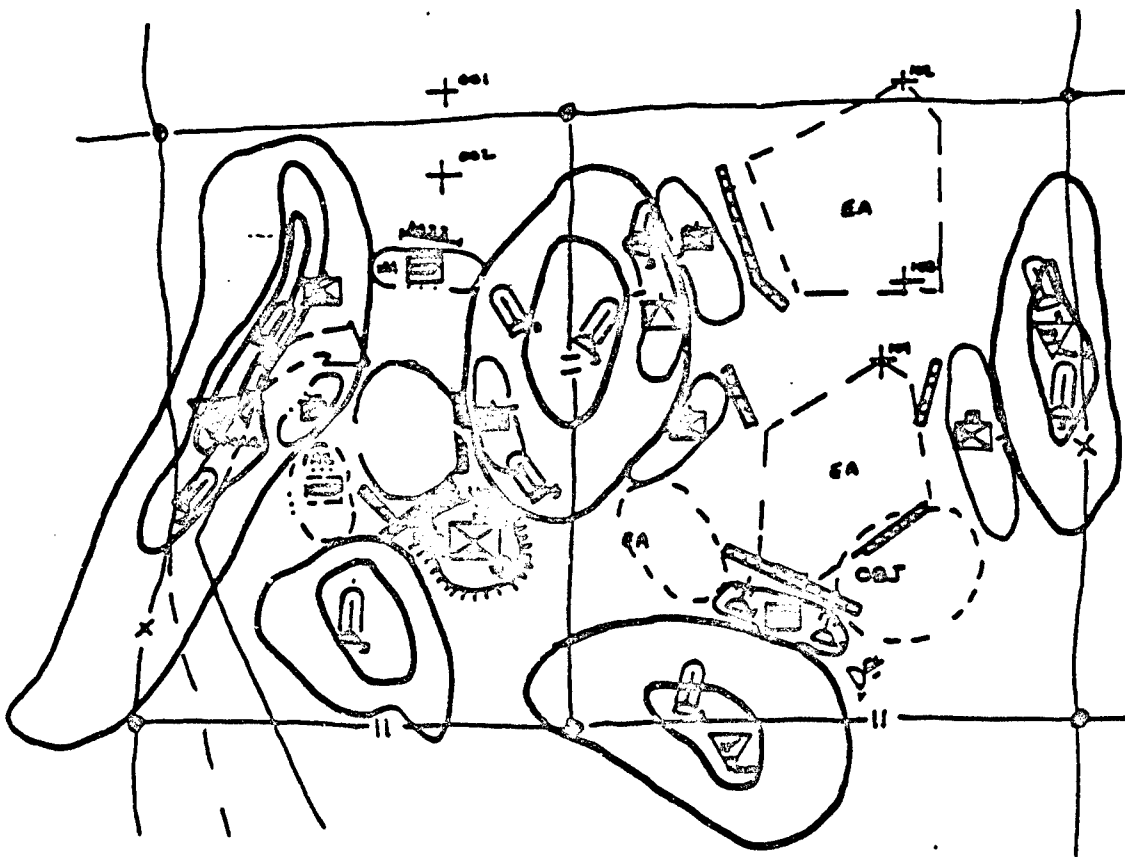


FIGURE 4-3-30. LIGHT-HEAVY AIR DEFENSE COVERAGE IN THE DEFENSE.

From his Air IPB of the area, the air defense battery commander has determined that the enemy's best air avenues of approach are around the high ground on both flanks of the

brigade area. Having determined this, he has placed his three FAAR radars on the high ground as depicted above. This will permit him to have continuous 360 degree coverage of the entire brigade area with good positions to detect air attacks along the brigade flanks.

The air defense battery commander has task organized as follows: the heavy task force on the right has been given the SP Vulcan platoon and five Stinger teams in direct support. While the light task force on the left has been given one towed Vulcan platoon and five Stinger teams. The remaining one towed Vulcan platoon and ten Stinger teams are in general support of the brigade. The light task force providing the screen has been given five Stinger teams in direct support.

In the heavy task force sector, the air defense platoon leader positions his SP Vulcans with the armor team. He places two Stinger teams on the high ground to the right to cover the air avenue of approach around that hill mass and to place them in an overwatch position for the mechanized team below. He places two more Stinger teams on the hill mass on the left of the sector in an overwatch position and covering the possible air avenue of approach to the task force front. These teams will provide coverage for the AT

Company and the light and mechanized companies in that area. The single Stinger team on the hill mass in the rear will provide additional coverage for the armor team from either air avenue of approach, left from the light task force sector or on the right along the hill mass.

The light task force's air defense platoon leader allocates his assets in the following manner. He places his platoon of towed Vulcans into the strong point. This will provide the light company with air defense and give him additional ground fire power. He places two Stinger teams in the overwatch position on the right to protect the light company positioned there. The lead team is also in a position to provide coverage to the armor platoon to the front. He places two other Stinger teams on the high ground on the left covering the air avenues of approach along that flank. These Stinger teams will provide air defense coverage to the light company and AT unit positioned there. Finally, he positions a single Stinger team on the hill mass in the rear of the sector to monitor the air avenues entering the rear of the task force sector. This Stinger team also provides air defense protection for the armor platoon upon their withdrawal into their alternate position and give additional coverage to the strong point.

The remaining platoon of three towed Vulcans and ten Stinger teams should be assigned the mission of general support to the brigade. This will enable the air defense commander to allocate and position them to meet the brigade commander's priorities.

The FAAR radars should remain under the control of the air defense commander and in a general support role. This will enable the air defense commander to emplace them in areas to provide the best early warning to the brigade. The one FAAR from the heavy task force should be integrated into the coverage.

The SP Vulcan platoon and its five Stinger teams should remain with the heavy task force unless it is designated as the brigade's reserve. In that case, the air defense assets should be taken by the air defense battery commander and given a general support mission in accordance with the air defense priorities. It should be returned to the heavy task force when it is committed.

6. Sustainment.

a. Light-Heavy Brigade Considerations.

In any defensive operation, the focus of CSS operations are conducted in the preparation for the defense. Once the preparation phase is complete, CSS assets must be positioned so they do not inhibit maneuver. The following considerations are intended to provide CSS planners and executors with insights to facilitate light-heavy sustainment in a defensive posture.

- * CSS planners must be a part of the IPB process and be plugged into the "intelligence process" so they can understand whether the defense is to be an area or mobile defense. CSS considerations will depend greatly on the type of defense planned.
- * As much as possible, position the augmented FAST elements out of reach of possible penetrations and off of templated enemy mobility corridors. They should be dug in as much as available time and assets allow.
- * Ensure the primary and alternate MSRs do not conflict with routes to be used by reserve forces.
- * Plan for the emergency move of critical BSA elements (classes III, V, IX, repair, medical, and in some cases, water assets) in case BSA falls under immediate threat.

- * Plan for the forward move of the BSA by echelon, to support a shift to offensive operations.
- * Pre-position fuel, ammunition, and barrier materiel forward in successive defensive positions. This requires careful coordination between the FASCO and S4. The organization of the FAST must be augmented with assets to configure packages and move them to stockpile locations. The task force S4 and engineer should also develop a basic load of class IV and class IV (barrier) for a standard defense for the specific light-heavy/heavy-light task force to reduce packaging time once requirement arises.
- * Plan for increased expenditure of munitions, including main guns, mortars, illumination, smoke, and artillery smoke.
- * The first priority for resupply may be barrier material so there is time to emplace. CSS elements must link up early with the engineers to obtain requirements which are not normally at the ATP or class IV point.
- * There are two sets of maintenance priorities. In the preparation phase, priority may go to prime movers and engineer support. During the conduct of the defense, priority goes to maintaining the maximum number of weapon

systems in the battle.

- * Plan for possible decreased consumption of fuel, depending on the type of defense. If packages are being pushed to the BSA, quantities may have to be lowered with a shift to the defense.
- * Plan to push pre-planned packages of class IX and III forward on a scheduled basis when required. Again, this requires careful planning and coordination among the FASCO, brigade S4, and battalion S4s to develop optimal packages (especially in the case of the heavy battalion that a FASCO is not accustomed to supporting) and to determine LRPs.
- * Plan to fix forward as much as possible. This may involve moving maintenance assets from field trains to UMCPs. It may also involve forming contact teams from the FSB assets augmenting the FAST. The FAST itself has a very limited capability of forming contact teams.
- * Helicopter resupply for the light elements should be maximized assuming air superiority and enemy ADA assets are not significant.
- * Caches may be used as a means of supplying stay behind

forces, especially for light forces. However, planners must be aware of the time required, which may be as much as 72 hours. These packages must be planned (whenever possible, standard caches should be developed in advance), configured, positioned, and, depending on the situation, guarded. As stated above, if the FAST is expected to perform these functions, it must be appropriately augmented. Care must be taken not to overstock caches so that stocks are not left when unit moves out.

- * During defensive operations the MP platoons will provide security to the logistical base, brigade HQ and any remaining EPWs. They are prepared to accept additional EPW/CIs as necessary by establishing temporary EPW compound in preparation for offensive operations.
- * Utility helicopters provide additional platforms for casualty evacuation above and beyond medical evacuation (MEDEVAC) elements capabilities. Augmentation of medical personnel to provide medical care enroute should be obtained, if possible.
- * Civil affairs support of defensive operations:
 - ** Language and cultural expertise/advise.

** CA area assessment.

** Control civilians to prevent interference with military operations.

** Coordinate HN support (facilities, transportation, etc).

b. Battalion Considerations.

- * Position CSS assets such as combat trains and UMCPs away from obvious targets. If possible, position them on a reverse slope and remote antennas. Reconnoiter an alternate site for the combat trains.
- * The support platoon must prepare to conduct emergency resupply, especially of class III and V, for all task force elements. The LNO from the cross-attached heavy or light company must provide emergency requirements.
- * Move recovery assets and contact teams to work out forward of the UMCP.
- * Pre-position critical supplies in the battalion area.

- * The light battalion does not have assets to move the quantities of barrier materiel required for the defense. If the engineer battalion is augmented with corps wheeled assets, it will pick up the materiel in the BSA and carry to the emplacement site. Otherwise, 5-ton trucks from the COSCOM truck company or the TMT company augmenting the FAST or in country assets will move the materiel from the BSA to the emplacement site.
- * In a strong point defense, CSS assets must be positioned inside the strong point to sustain operations since normal lines of communications may not be available.
- * Unit SOPs should reflect plans for the conduct of immediate reorganization to facilitate restoration of minimum levels of combat effectiveness.
- * LOGPACs are built in the BSA and postured where the battalion S4 can best impact on the materiel sustainment of the battle.

7. Communications.

- a. Signal support in the defense:

- * Limited single channel radio is used (due to enemy radio direction finding capabilities).
- * Multichannel radio use should be maximized to provide large circuit capacity over considerable distances.
- * During defensive operations, hot-loop wire lines combined with the multichannel system should be used.
- * Serious consideration must be given to establishing some sort of messenger service. This is another nonradiating means which is critical during defensive operations.
- * Visual signals are effective, especially when passing short messages.

b. Communications at brigade level in a defensive situation call for limited radio (i.e. single channel voice) emissions, maximum use of wire for the status (i.e. main) force, and multichannel radio (since it is directional and thus considered less of a risk to radio direction finding techniques). In addition, a highly disciplined radio net for the reconnaissance element forward must be employed. Radio listening silence should be enforced on all stationary radios. While the terrain is highly compartmented, wire links can and should be established in the following

order: (1) higher to lower, (2) left to right, and (3) supporting to supported. For extended distances and where aviation assets are available, wire can be deployed by aerial method.

c. The communications system interconnects all major command elements and provides entry into the communications system for covering forces, outposts, and reserves. Signal centers are easily employed in the defense. They will not be required to displace as often as the offense, but at times they will displace and personnel should be prepared to move on short notice. Messengers are effectively used in organizing and conducting defensive positions. They reduce the requirement for radio transmissions and provide a high degree of signal security.

Visual signals can be used in the defense as in other situations described in this manual. Again, this type of communication allows us to maintain radio silence and provides security. In the defense, radio communications are not used as long as we have other communication means available. Radio nets will remain open, but on listening silence. Wire communications will be the primary means in the defense. High priority circuits should be established as quickly as possible to meet immediate requirements. More circuits can be installed, as needed, to meet requirements and increase communications traffic capacity and flexibility.

d. Communications Nets in the Defense:

The below listed nets are the minimum nets required in the defense

(Note: The below listed nets are on radio listening silence until contact is made):

- * Brigade command FM net.
- * Brigade administrative and logistical FM net.
- * Brigade operations/intelligence net.
- * Battalion command FM net.
- * Battalion administrative and logistical FM net.
- * Battalion operations/intelligence FM net.
- * Company command and operations FM net.
- * Fire direction nets.
- * Surveillance nets.

8. Nuclear, Biological, and Chemical (NBC) Defensive Operations.

The Smoke/Decon Company can provide smoke to slow the advance of

attacking forces, conceals battle positions, logistic support areas, and reduces the enemy's capability to see the battlefield. Smoke pots should be used to conceal the individual smoke generator's location. As the battle handover from the covering force to the MBA force occurs, smoke generators and smoke pots screen the maneuver of friendly forces. Smoke is employed under proper MEIT-T conditions. Decontamination support and deliberate Decontamination sites will be established in the BSA. The Decontamination mission is tied to the availability of a water supply.

For an example of this technique see Figure 4-3-31.

Meteorological conditions are as follows:

Wind Direction:	From SW to NE.
Wind Speed:	6 knots.
Temperature Gradient:	Inversion.
Time:	Most effective in early morning or late evening.

This type of smoke employment will provide a smoke haze. The visibility is from 50 to 150 meters. The smoke screen will conceal ground maneuver, breaching, and recovery operations.

The smoke generators must be placed in a hide position with cover from enemy artillery.

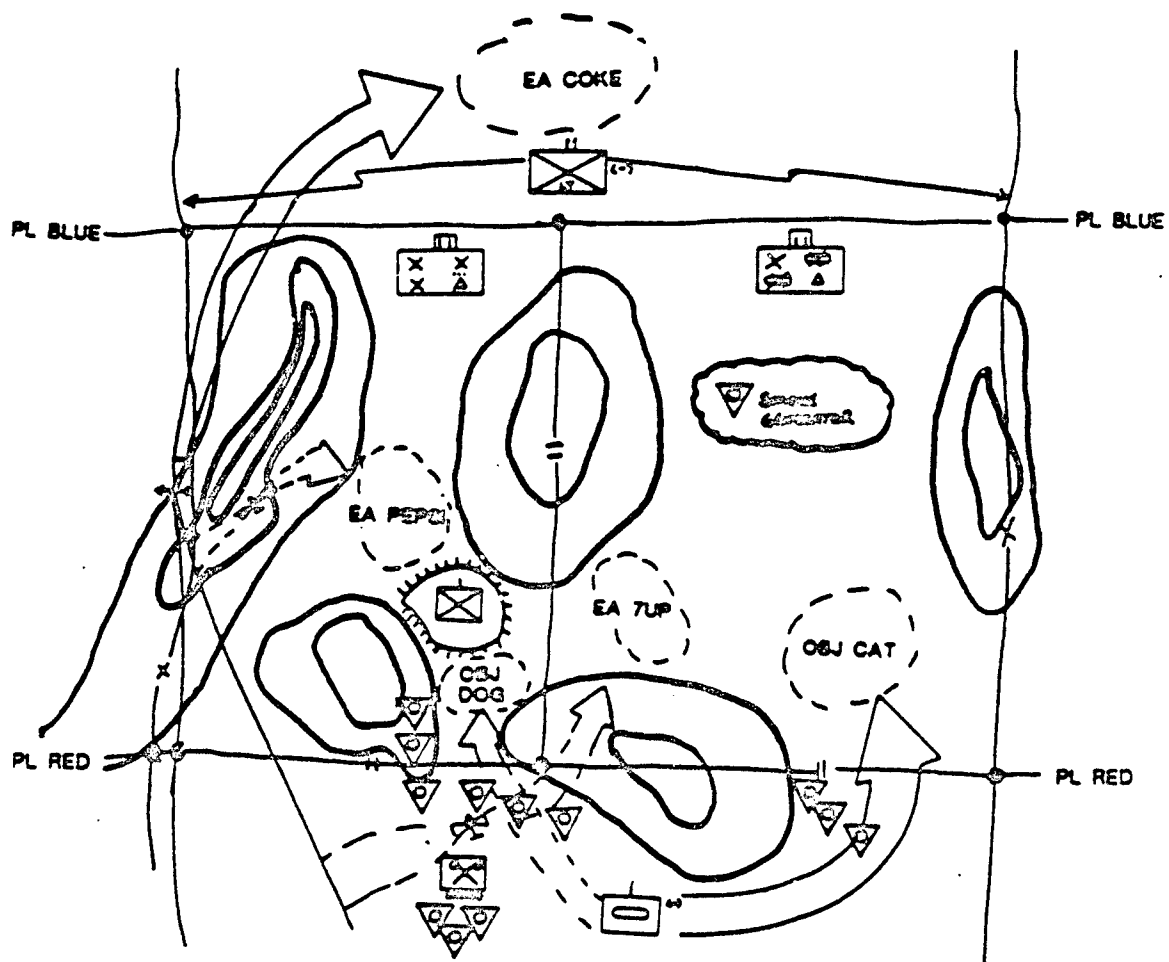


FIGURE 4-3-31. SMOKE ASSETS IN THE DEFENSE.

PART FOUR: REDEPLOYMENT/HOST NATION DEVELOPMENT PHASE

The objective of this phase is to consolidate friendly control of the operational area, redeploy the force to CONUS or another theater as rapidly as possible, and shift the forces of operations from combat to nation building. There, the force is reconstituted for other contingency operations. As in the initial phase, echelonment of command and control, combat, combat support, and combat service support elements while maintaining flexibility and security are essential.

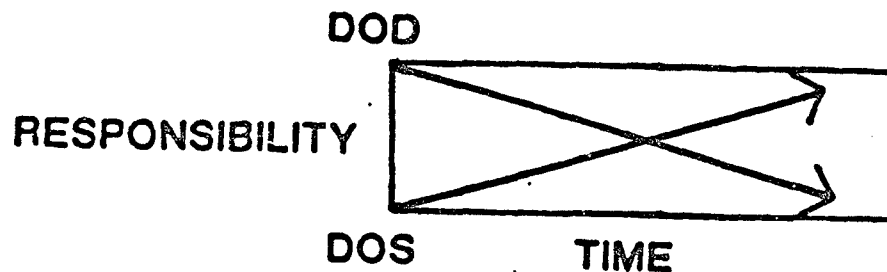


FIGURE 4-4-1. RESPONSIBILITY CONTINUUM.

Even before the successful completion of combat operations, planning for the shifting of responsibility for operations in the host country begins between the Department of Defense and Department of State. As combat action decreases, State Department activity and responsibility increases until a handover of authority occurs. (Figure 4-4-1).

During this process, United States military objectives shift from a combat orientation to foreign internal defense (FID) in support of the host government's internal defense and development (IDAD) program. IDAD is a full range of actions taken by a nation to promote its growth and to protect itself from subversion, lawlessness, and insurgency or banditry. The goal of IDAD strategy is to develop viable political, social, economic and military institutions which are responsive to the needs of society.

A successful IDAD program is based on balanced development, security, neutralization and mobilization. The host government implements social, economic, and political programs which stimulates balanced development. These programs are oriented at redressing the social, economic, and political ills of the country. The host nation military provides the necessary internal security and stability within the country to promote such development. All elements of power concentrate on the legal, physical and psychological separation of the former base of power from the population. Mobilization and support of the population and material resources are necessary if this program is to be successful.

US government support to a host government's IDAD program is foreign internal defense. This is a joint inter agency, coordinated effort which is a blend of our instruments of national power: diplomatic; economic; information; and military. Each designed to achieve clearly defined political objectives. The US ambassador, through the country team provides the focal point for interagency coordination and supervision of the FID program. The US military mission in support of a FID program, provides assistance in training, advisory assistance, intelligence, psychological operations, civil affairs, population resource control, and tactical operations.

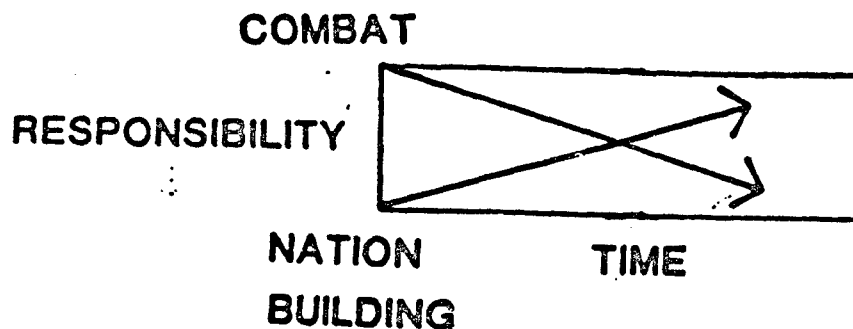


FIGURE 4-4-2. OPERATIONAL CONTINUUM.

As combat operations are concluded, the JTF reduces its combat strength and increases its nation building strength in the form of Special Forces, Civil Affairs, Psychological Operations, Military Police, Engineers and Medical detachments. As this occurs, a handover of military operations from combat forces to nation building forces gradually occurs. (Figure 4-4-2).

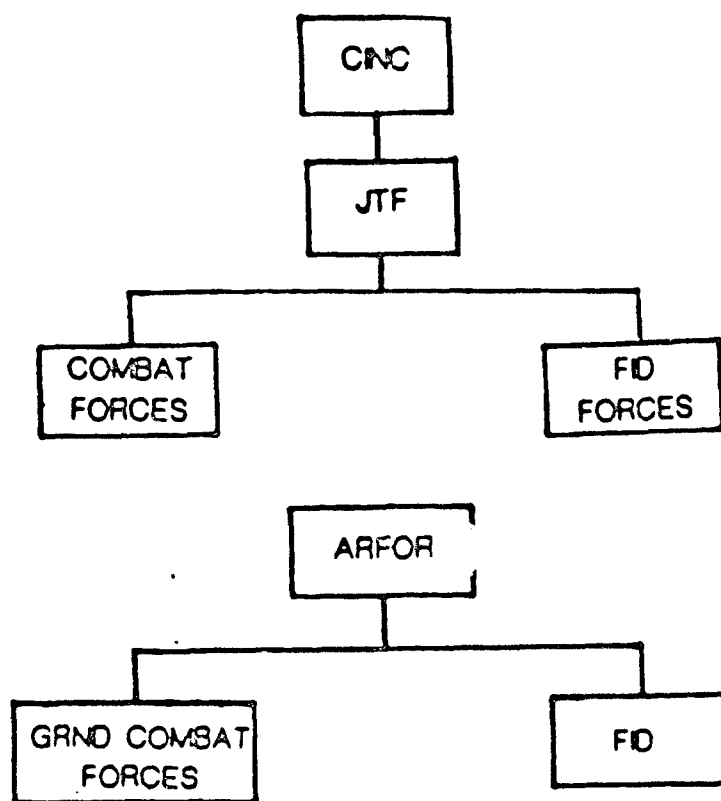


FIGURE 4-4-3. ORGANIZATION FOR TRANSITION.

The joint forces commander (JFC) or subordinate joint force commander must create an organizational situation to facilitate this handover. The two subcomponents of this organization will be ground combat forces and foreign internal defense forces. Each organization should be commanded by senior officers of equal rank. (Preferably by a General or flag officer or at a minimum a Colonel or Naval Captain). Examples of such an organization are found in Figure 4-4-3.

The nucleus for the combat military portion of forces can be a battalion, brigade or a division. The nucleus for the FID force may be a Joint US Military Assistance Group (JUSMAG). A FID force or other Security Assistance Organizations (SAO) operates under a US unified command or subordinate JTF to provide training and operational advice to host nation forces. To accomplish this, assigned or attached elements making up this force must be specially trained, area oriented and language qualified.

The nucleus of the SAO should be provided by Special Operations Forces. By doctrine and force design a Special Forces group or battalion can be designated the C² element of the SAO. The SAO itself is a combined arms task force made up of a wide range of skills. The force is tailored and packaged to augment the capabilities of the in country SAO based on METT-T-P. Normal augmentation includes:

- * Special Forces.

- * Civil Affairs.
- * Psychological Operations.
- * Health services support.
- * Engineer.
- * Military Police.
- * Military Intelligence.
- * Signal.
- * Other combat, combat support and combat service support elements.

Handover between combat forces and the FID forces must be methodical and deliberate. It must be jointly planned between the combat and FID commanders, then briefed to the JTF or ARFOR commander. A time line must be developed. Handover on the ground is sequenced on that time line to ensure a gradual and orderly transition occurs.

To ensure security during the transition, the ARFOR creates a "Quick Reaction Force" (QRF). The size and location(s) of this force is (are)

based on METT-T-P. Adequate combat support, and combat service support assets augment this force to ensure its rapid deployment and reinforce its combat capabilities.

Special Forces Operational Detachment "A" (SFODA) are deployed into the area of operation over a period of days. One SFODA is committed per rifle company area or in some cases a battalion area of operation. That rifle company or battalion remains in place until the SFODA commander feels the situation is stable. Once the SFODA commander feels the area of operation is pacified, the ARFOR or JTF commander is notified. Upon his acknowledgment, the rifle company or battalion is pulled back to an assembly area for redeployment.

At the same time, Special Forces Operational Detachment's "B" (SFODB) are deployed into the ARFOR's area of operation as a command and control element of the SFODAs. The area of operation of the SFODB may not be the same as that of the battalion or brigade. It will be based on METT-T-P with emphasis on establishing area boundaries which maintain the ethnic homogeneity of indigenous personnel.

To ensure an orderly transition, detailed briefings are conducted. The incoming SAO C² element, which should be the headquarters of a Special Forces Group (Airborne) [SFGA] or a Special Forces Operational Detachment "C" (SFODC), will receive detailed briefs by the JTF, ARFOR, brigade and, if required, battalion staffs. The SFODBs receive briefs

from brigade and battalion staffs and if required, rifle company commanders. Finally, SFODA's receive briefs from the battalion staff and rifle company commander in the area of operation. The briefs cover the battlefield operating systems and are followed by close personnel interface.

At a pre-agreed to time, and/or condition, command and control of ground forces shifts from the combat commander to the SOF commander.

A QRF should be retained in country. The QRF can be under the command and control of the SAO, ARFOR or the JTF. Minimum fire support assets must be available. These should come in the form of A-37s, AC130s, or attack helicopters.

If, due to constraints, US Army engineers are unable to deploy to the host nation country, a District Engineer with contract authority should be part of the incoming FID force.

The SFODA and the SFODC are structured with support elements to provide the nucleus for CSS support. As required these will have to be augmented with COSCOM assets.

ENDNOTES

- 1 FM 100-25, Doctrine for Army Special Operations Forces, Department of the Army.
- 2 FM 7-85, Ranger Unit Operations, Department of the Army.
- 3 FM 34-60A, Counterintelligence Operations (U), Department of the Army.
- 4 FM 100-27/ AFM 2-50, USA/USAF Doctrine for Joint Airborne and Tactical Airlift Operations, Department of the Army.
- 5 FM 34-1, Intelligence and Electronic Warfare Operations, Department of the Army.
- 6 FM 7-10, The Infantry Rifle Company, Department of the Army.
- 7 FM 21-60, Visual Signals, Department of the Army.
- 8 FM 7-10.
- 9 FM 7-10.

CHAPTER FIVE

CONCLUSIONS, AND RECOMMENDATIONS

CONCLUSIONS

The use of light, heavy, and special operations forces for the conduct of military operations creates a new dynamic for the battlefield commander. Although most traditional doctrine, tactics, and techniques can be applied to the force, unique situations created by the mixture of different forces requires new solutions to insure the synergism of the force is maximized.

The importance of developing solutions to the unique problems of light-heavy SOF operations is imperative to the United States Army. Over the past years it has become more likely for United States forces to become involved in contingency operations to support or achieve national goals and interests. The magnitude of the operations will vary from small force operations described in this thesis to operations on the scale of operations currently being conducted in the Persian Gulf.

As commanders address future battlefield they must look at the battlefield from all dimensions. No longer are traditional approaches to combat operations going to be the most successful manner of prosecuting ground combat operations. Commanders and staff planners who lock themselves into a single force type, or set of tactics will doom themselves and the forces entrusted to them to failure.

During the past two years it has been a privilege to have had license to look at the employment of the variety of forces within the Army force structure without constraints. The most difficult aspect of this privilege was overcoming institutional and personal biases as to how best to employ each type of force.

First and foremost a lesson learned is that each type force, be it light, heavy, or special operations has an important role and function on the battlefield. The most effective forces are those that maximize the total capabilities and minimize the total vulnerabilities, and use every possible space on the battlefield to their advantage. Forces that fail to do this rarely achieve a level of success comparable to those that do.

Included are the following conclusions derived as a result of studying light-heavy-SOF operations. The conclusions are organized in accordance with the TRADOC Battlefield Operating System model. The structure of the seven battlefield operating systems is used to frame the lessons learned and observations. The focus is on the light-heavy force employment on the mixed force battlefields using heavy-light and light-heavy task force/team organizations.

1. Command and Control:

A. The most difficult combat task for a maneuver commander is to integrate and synchronize combat power at the critical time and place. To accomplish this task it is essential that the maneuver commander understands the capabilities and limitations of his forces. This is exceptionally true for light-heavy combined arms operations. The maneuver commander can significantly alter the dynamics of the battlefield by maximizing the capabilities of one part of the force to offset limitations of another part of the force. Light forces use stealth and surprise to attack and defeat their opponent. Heavy forces use firepower and mobility to defeat their enemy. These two forces create an environment that prevents the enemy from using his weapons and tactics to an advantage.

B. Integration of combat assets requires the commander's intent and orders be clear and concise. Clarity of intent and orders is especially important when mixing light heavy and forces. Heavy and light forces react differently on the battlefield. Light forces cannot react quickly to changing missions, without transportation augmentation. Heavy forces react quickly but have a significantly larger density of equipment and support resources to move. The "tail" must be included when changing missions of heavy forces. Once moving, heavy forces provide flexibility to respond rapidly to mission changes. Force commanders must realize that once committed a light force cannot be rapidly reoriented to execute a new plan.

C. Control measures are essential to operations with mixed forces. Reaction times and rates of movement for heavy and light forces are significantly different. The differences require commanders and staffs to pay particular attention to size of defensive sectors as well as attack distances assigned to each type force. A heavy tank company may not be able to maneuver adequately within a light infantry battalion sector under normal circumstances. The commander must analyze METT-T and designate sectors that maximize the capabilities of both forces.

D. Planning is critical to successful operations. When mixing forces there is a greater potential to miss something in the planning process due to differences in tactics, techniques, and procedures. Successful commanders have found that liaison officers (LNO) are crucial to bridging the differences in the forces. The LNO is the force employment expert on whom the commander must rely on to ensure the forces are employed as they are best suited. Units failing to use liaison officers significantly increase the probability they will not employ their forces in the most effective manner.

E. Timely and accurate reporting of information is essential in all operations. Mixing of light and heavy forces creates a new battlefield dynamic requiring intensive management. Processing of information and tracking of the battle at all locations and echelons is absolutely critical. On the heavy or light battlefield the commander

fights one type battle with a set pace of operations. Mixing heavy and light forces into combined arms teams creates a battle with multiple dimensions. A multi-dimensional battlefield requires the maneuver commander must fight more than one type battle simultaneously. Synchronization is difficult under the best of situations. Without intensive and continuous battle tracking, synchronization is quickly lost.

F. Flow of information is a vital link when employing light and heavy forces. The ranges and types of communications equipment available to the forces must be known by the commander. Recognizing the capabilities and limitations of the heavy and light communications equipment reduces the likelihood information and reports will not be available to the commander at a critical time and place on the battlefield.

Light forces have several communication's systems not found in heavy forces. These include MX band radios and Tactical Satellite (TACSAT) radio systems. Heavy forces must be augmented with these systems. Conversely Heavy forces rely on FM communications. The heavy forces systems possess a FM operating range three to four times greater than the FM systems found in light forces. Additionally, heavy forces have significantly greater communications redundancy than light forces. Planning communication is absolutely critical to effective employment of light and heavy forces.

2. Intelligence:

A. The intelligence requirements of heavy and light forces are different. Effective combined arms operations require those differences be identified, understood, and included in plans and orders.

B. Heavy and light forces use terrain differently than light forces. The light force commander must understand how heavy forces will use terrain as he plans combined arms operations with heavy forces. How the heavy force will get to the battle is just as important as where the enemy will fight. For example, light force scouts must be familiar with tank mobility and routes when conducting reconnaissance for a light-heavy battalion task force.

C. Light and heavy forces use location differently. Heavy forces use area locations, in as much as fix enemy forces at a specific point for engagement. Heavy forces fight from positions on or near a specific location where they want to defeat the enemy force. Light forces use location as the point on the ground where they will position themselves to conduct a specific action. Force commanders must recognize how each type force uses the term location.

D. Light forces must exploit the intelligence capabilities of heavy forces. Heavy force scouts can cover large areas of the battlefield more rapidly than light scouts. This provides the light force commander

with a broader perspective of the battlefield. On the other hand, heavy forces can use the light force scouts to enhance their reconnaissance capability. The battlefield signature of the dismounted or light scout is such that they are frequently overlooked by enemy forces. Light force scouts appear to vanish when they are not moving. This provides the heavy force with the ability to maintain surveillance on critical areas of interest with little risk of being acquired. Combining heavy and light force scouts provides the light commander with the ability to move scouts around the battlefield more rapidly. This adds depth to the forces' ability to see more of the battlefield, and develop a more comprehensive picture of events as they unfold.

3. Maneuver:

A. Understand how light and heavy forces fight. Light forces overwhelm the enemy with intense small arms fires at close range to prevent the enemy from reacting. Heavy forces mass fires and maneuver to allow multiple engagements of targets with organic weapons systems. The characteristics of each type engagement are different. Light forces engagements are close, fast, and violent. Heavy forces battles are longer in duration, and are characterized by brief exchanges of violent fire, followed by movement, and more fire.

6. Light infantry forces use aggressive actions to prevent the

enemy forces from massing on them. In both offense and defense, light forces must take the battle to the enemy. Light forces attack enemy forces when they are most vulnerable. The enemy is most vulnerable at night, in restrictive terrain, and when exposed to conduct breaching operations. The enemy is also vulnerable in their rear support area; and along enemy command, control, and logistic lines. Light forces shape the battlefield.

C. Heavy forces add depth to the battlefield by providing the commander with the ability to reposition forces in response to the changing dynamics of the battlefield. In operations with light forces this provides the force commander with flexibility to fight an armored or mechanized enemy force. Light forces alone cannot react with the speed and agility that is required for such a fight. Mixing light and heavy forces allows the commander the flexibility to engage enemy forces continuously across the spectrum of the battlefield.

D. Use the maximum capabilities of weapons systems to defeat enemy forces. Both heavy and light forces have weapons that cause devastating effects on enemy forces. Leaders at all level must understand the ranges, effects and employment considerations for every weapon they have available to their force. Leaders who fail to know what the capabilities are of their force cannot maximize their combat power against the enemy.

E. In concert with each other, heavy and light forces provide the maneuver commander the ability to fight in all terrain and weather conditions. A single type force does not have the capability to offset its own limitations, heavy and light combined arms forces do. Combined arms teams with heavy and light forces create a synergistic force less restricted by terrain; able to fight in all conditions of visibility and weather; and able to seek out and destroy the enemy when he is most vulnerable. The combined effects of mixing heavy and light forces creates a force stronger than the individual parts.

4. Fire Support:

A. The complementary actions of heavy and light artillery increase the depth of fire support available to the maneuver force. Light force artillery is best suited for close support operations. The family of light artillery munitions are ideally suited for supporting dismounted and light assault forces. Although the lacking dual purpose improved conventional munitions (DPICM) of the heavy artillery, light artillery produces higher volumes of fire to support maneuver operations. The lesser range of light artillery is balanced by the ability to air assault firing units to attack enemy targets that far beyond the range of heavy guns.

B. Heavy force artillery provides the force commander with

longer range weapons and a larger variety of ammunition to include anti-armor munitions such as DP-ICM, Copperhead, and FASCAM. The automated fire control and planning assets of heavy forces facilitate a more rapid response to the needs of the maneuver force. Heavy force artillery, augmented with organic counter mortar radar of the light, provides an improved counterfire capability essential for survivability of friendly forces.

C. As with any capability there are limitations when forces are mixed. To reduce the possibility of inflicting casualties and damage to friendly forces, coordination and clearance of fires is critical. Units must know where all elements of the force is at all times. Planning of fires must be integrated into maneuver plans. This ensures fires' support the scheme of maneuver, and maneuver of firing assets does not interfere with the ground tactical plan. Reporting of unit locations and good land navigational skills are essential in reducing the chance of fratricide.

D. The interface between TACFIRE and non-TACFIRE equipped units is crucial. The use of liaison officers between the heavy and light artillery resolves many of the difficulties encountered. The liaison provides the controlling headquarters with an expert who can resolve problems as they arise. Just as the liaison officer between heavy and light maneuver forces is critical to effective combined arms operations, the liaison officer is critical to indirect fire support operations.

5. Mobility, Countermobility, and Survivability:

A. Planning for these systems with a mixed force is a challenge. Mobility means different things to each part of the force. To heavy forces, it is the ability for that force to move unimpeded from the line of departure to and past the objective. This requires the heavy force to identify, breach, and clear any impediment or obstacles that interferes with the freedom to maneuver. Heavy forces must analyze and evaluate soil conditions, terrain restrictions, and obstacles or barriers that might interfere with mobility. Light forces are less restricted by maneuverability than heavy forces, but place a higher premium on covered and concealed avenues than heavy forces. Light forces must carefully consider the mobility limitations of terrain when teamed with heavy forces in combined arms operations.

B. An aspect of mobility frequently overlooked is the different rates of maneuver for light and heavy forces. By using the transportation resources of a heavy unit, a light force can be moved much more rapidly than by having them walk. Instead of a light infantry company walking 15 km's from an assembly area to the objective, units should use all available resources of the heavy portion of the force. Soldiers can be transported to the line of departure or attack position with organic assets such as HMETT ammunition carriers, or tanks. The light force will have more physical energy available for battle and mounted light forces

provide additional security to the heavy force. Units that capitalize on the resources and capabilities of the other parts of the force are more effective than those that ignore them.

C. Limiting the ability of the enemy to maneuver reduces his ability to fight on his terms. Heavy forces can create obstacles that can stop enemy forces. Light forces can prevent enemy forces from breaching them. Light forces can create obstacles forcing enemy forces to maneuver into the killing zones of heavy forces. Together heavy and light forces can prevent the enemy from taking advantage of a limitation of either the light or heavy force.

D. Planning countermobility operations is just as important as planning mobility operations. Obstacles and barrier plans must be an integrated into the maneuver plan. Consideration must be given to the effect obstacles have on friendly forces. FASCAM mine fields must be coordinated to prevent the safety zones from interfering with friendly forces and maneuver or counterattack routes. Consider the ranges of weapons being used to cover FASCAM minefields. Ensure weapons reach into engagement areas.

E. Survivability is essential to both light and heavy forces. Light force commanders must plan survivability measures for their attached heavy forces. Tanks, for example, do not have camouflage nets, and cannot dig themselves in as a light infantryman can. In the defense a heavy

force, like the light force, survives best in dug-in fighting positions. Priorities for construction of survivability positions is METT-T driven.

6. Air Defense:

A. Light forces frequently overlook the capabilities of the heavy force to supplement their air defense assets. The fire power of a heavy force is devastating to enemy air. Every weapon on a tank, including the main gun is a potential destroyer of enemy aircraft and helicopters.

B. Heavy forces frequently overlook the danger to enemy aircraft light forces pose. The ability of light forces to disappear and hide on the battlefield is an advantage. Enemy forces cannot accurately predict where they are most likely to be attacked by air defense weapons and missiles. When enemy aircraft realize they have been engaged it is too late to react. By the time the enemy can react, the light air defenders can vanish and move to another engagement area to attack another aircraft or helicopter.

C. Placing the light force air defense assets throughout a sector also improves the early warning capabilities essential to effective air defense.

D. Heavy forces can supplement the missile carrying capabilities of light forces and facilitate resupply after missile are expended. Heavy forces can increase the survivability of light air defense assets by using engineer assets to build positions to reduce their vulnerabilities to enemy ground and indirect fires.

7. Combat Service Support:

A. Whether a force is heavy, light, or a mix of both, the most complex aspect of any operation is CSS. As with all of the Battlefield Operating Systems, CSS has capabilities and limitations.

B. Combat Service Support requires a common support structure capable of accepting forces regardless of their type. Current systems used by light and heavy forces are incompatible. The Combat Service Support structure of the light forces is designed to support a light force for short periods of high activity. It does not provide the structure to plan, and track the battle for extended periods of time. A consequence is the inability of the light FAST to integrate effectively and efficiently CSS assets needed to support heavy forces.

C. Casualty evacuation is a critical element of support to the soldier. Soldiers fight better if they can depend on an efficient casualty evacuation and medical treatment system. A soldier who knows he

will be taken care of if he is wounded or injured fights better. Light forces must rely on external assets to evacuate its casualties. Planning for the use of light forces must include planning for casualty evacuation. If a vehicle can move it can be used to evacuate a casualty. Light forces can assist in the treatment and evacuation of casualties from both light and heavy forces.

D. Light forces require resupply more often than a heavy force, but require less. What the light fighter needs he must carry. Use of heavy force assets to reduce the burden on the individual soldier creates a more effective force. Heavy forces can carry more mortar ammunition on a Bradley than a light infantry platoon would otherwise carry in their rucksacks. The same is true for other types of class V.

E. A light force has significant difficulties supporting a heavy force with maintenance, and other logistics. Increased consumption of class III and V are examples. This problem is overcome by planning and tailoring the heavy force to bring with it those assets that the light force cannot provide.

RECOMMENDATIONS

Employment of light and heavy forces as a combined arms team is a viable application of forces. Training together will allow units to

overcome fears and misperceptions as to the capabilities and limitations of different force types. Overcoming parochial attitudes of each type forces is our greatest training challenge.

This thesis project was intended to serve as a first step for the future development of doctrine, tactics, and techniques for the employment of forces on the modern battlefield. The narrow focus of this effort was necessary to provide a pathway for future studies and development of doctrinal publications dealing with other forms of contingency operations and other force mixtures.

The results of this thesis will continue to require refinement as forces modernize in terms of doctrine, training, organization and material. Refinement will also be required as more operations and training is conducted using mixed forces of light, heavy, and special operations forces.

APPENDIX A

TACTICAL AIR SUPPORT TO ARMY STRIKE OPERATIONS

A. General. US Air Force Tactical Air Support to strike operations include a wide range of missions and capabilities. The Air Force missions that will most directly effect the Army during strike operations include:

1. Counter air; to gain control of the airspace in and around the area of operation.
2. Battlefield air interdiction (BAI); to delay, disrupt, divert or destroy enemy land forces which could have a near term effect on the operations or scheme of maneuver of friendly forces, but are not in close proximity to friendly forces.
3. Close air support (CAS); to support the friendly concept of operations with decisive aerial firepower in close proximity to friendly surface forces.
4. Airlift; to deploy and sustain friendly forces.

5. Surveillance and reconnaissance; to collect information from airborne tactical Air Force sensors and assets.

ARMY BOS	COUNTER AIR	AIR INTERDICTION	CAS	SURVEIL & RECON	AIRLIFT	SPECIAL TAC
MANEUVER	• FIGHTER AIR ESCORT				• AIRBORNE & AIRLAND	
MOVING		• BATTLE GROUPS • AT & PERB				
PRE SUPPORT		• BN	• BRUNNATE CAS			• AIRBORNE AIRBORNE AEGC BN JCS COMBAT CALL
AIR DEFENSE	• AIR DEFENSE FIGHTER CAP/ESCORT • AWACS					
INTEL				• NATIONAL • TACTICAL		
CBS					• AIRBORNE RESCUE	
C2					• COT	• WEATHER • AEGC

USAF TACAIR SUPPORT IN CONTEXT OF CONTINGENCY ONLY. STAFF PHASE
OF FOREIGN ENTRY INTO AREA OF OPERATION

- AEGC: AIRBORNE BATTLEFIELD COMMAND AND CONTROL CENTER
 - AIRBORNE ELEMENT OF THE USAF TACTICAL AIR CONTROL SYSTEM
 - PROVIDES CAPABILITY TO CONTROL AND COORDINATE OPERATION OF TACAIR CFB. WILL ALSO FUNCTION AS AIRBORNE AIR SUPPORT OPERATION CENTER
- AWACS: AIRBORNE WARNING AND CONTROL SYSTEM
 - PROVIDES LIMITED AIRBORNE EARLY WARNING AND SURVEILLANCE EFFECT TO ARMY FORCES IN CONTINGENCY OPS
 - CONTROLS USAF COUNTERAIR ASSETS
- COMBAT CONTROL TEAM (CTT)
 - WEATHER OBSERVATIONS
 - RECON & INTL REPORTS
 - TERRORISM, MOVING AND ASSISTANCE
 - COMMUNICATIONS
- NOTE: A TACAIR ASSET MAY BE LOCATED FOR THE AEGC, RECON OR AIR TYPE FUNCTIONS

Figure A-1. TACTICAL AIR SUPPORT MISSIONS

6. Specialized tasks; to enhance the execution of their missions and enhance brigade operations, such as:

-
- FIGHTER CAP
- AWACS
- VOICE TELL
EARLY
WARNING
- AFFOR
- TACC BCE
- A2C2 ELEMENT
TACP
- ALERT & CUENG

- FIGHTER CAP
- EARLY WARNING (VOICE TELL)
- RULES OF ENGAGEMENT, HOSTILE CRITERIA, IFF

A-3

B. Air Defense Operations and Tactical Air Support Considerations.

1. The commander, air forces (COMAFFOR) will normally be designated as area air defense commander (AADC) if a significant air threat exists. As AADC the COMAFFOR will plan, coordinate, and conduct air defense operations for the joint force. Figure A-2 depicts the key architecture of joint air defense operations during a strike operations.

2. The Airborne Warning and Control System (AWACS) can provide limited airborne early warning and surveillance direct to the brigade command post. The interface at the brigade command post will be an ad hoc Army Airspace Command and Control (A²C²) Element with the ADA liaison team and TACP as the principal players. Early warning information will be provided via "Voice Tell" procedures to the Army from AWACS (SEE TRADOC Pam 34-4 for additional information).

3. Early warning (alerting and cueing) information, changes to rules of engagement and limited IFF will be provided by TACP communications means to the ALO and ADA Liaison Officer who in turn will relay this information to Army Air Defense Artillery Units within the brigade.

4. Tactical Air Force air defense fighter operations in support of the airhead may be controlled by AWACS, and Army Forward Area Air Defense and Air Force air defense operations may be coordinated and deconflicted by means of AWACS.

5. Key Army/ Air Force Interface: A²C² Element; TACP; AWACS;
ADA Fire Units.

C. Tactical Air Close Air Support/Battlefield Air Interdiction/Electronic Warfare Considerations.

1. Air Force CAS will normally constitute the primary means of fire support for Army strike operations during the initial phase of the operation. Figure A-3 depicts the key architecture involved in fire support operations.

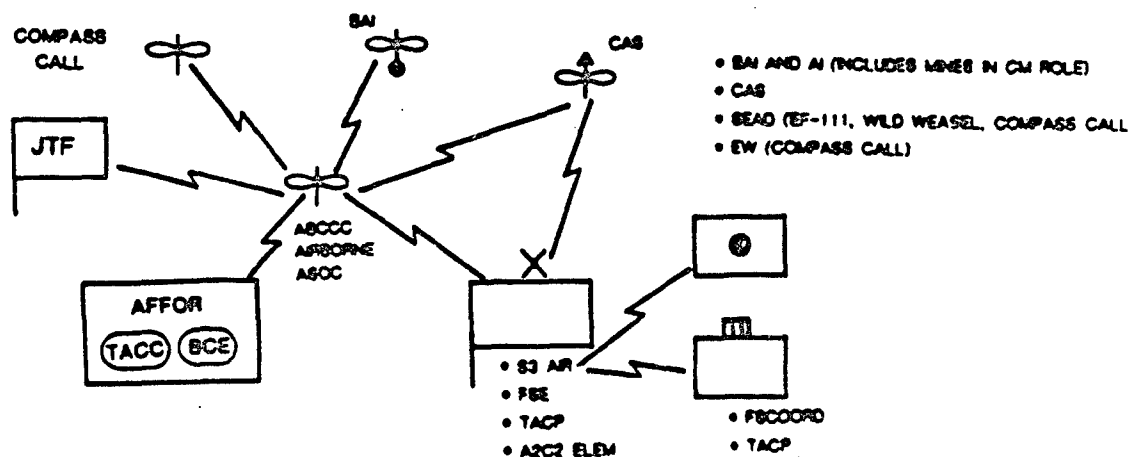


Figure A-3. AIR FORCE FIRE SUPPORT OPERATIONS.

2. Key Army/ Air Force Interface: Fire Support Element; TACP; S3, Air; ABCOC; EW Staff Officer; S2.

3. BAI/AI target nominations to support the concept of operation will have been coordinated and planned prior to execution. Adjustment to these missions and request for additional BAI support will be IAW FM 6-20-30, Fire Support for Corps and Division Operations. The ABCOC, (if available) acts as an airborne air support operations center (ASOC), and facilitates required coordination between the FSE and the Air Force Forces TACC and JTF (SEE TRADOC Pam 525-8 for further information).

4. Close air support assets on airborne alert status can be launched by the ABCOC in response to Army requirements for immediate CAS. Preplanned CAS missions will normally be coordinated by the ABCOC and can be adjusted to meet immediate CAS requirements if required.

5. Army requirements for jamming support may be provided by Compass Call and EF-111 Ravens during selected phases of the operation. Air Force battle staff personnel on the ABCOC can coordinate EW/jamming operations with the brigade CP.

D. Tactical Air Intelligence Support Considerations

1. In addition to National Intelligence assets Air Force tactical

assets in the immediate objective area can provide limited near-real time intelligence support. See figure A-4 for a depiction of key architecture/interface.

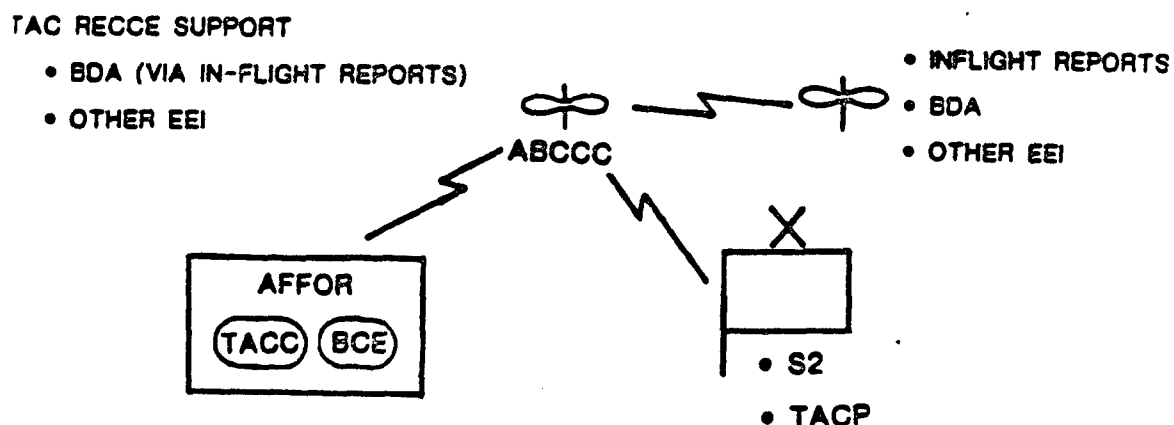


Figure A-4. INTELLIGENCE SUPPORT.

2. Prior coordination for intelligence support from Air Force tactical air assets, will allow the brigade to receive in near-real time in-flight reports concerning battle damage assessments from CAS and BAI missions. Additionally selected essential elements of information (EEI) which CAS and BAI mission aircraft may be able to collect, can be provided

by means of in-flight reports direct to ABCCC and then to the brigade CP.

3. Key Army/ Air Force interface: brigade S2; TACP; ABCCC.

4. Other intelligence data from JTF and Army sources will be provided IAW normal doctrine and procedures.

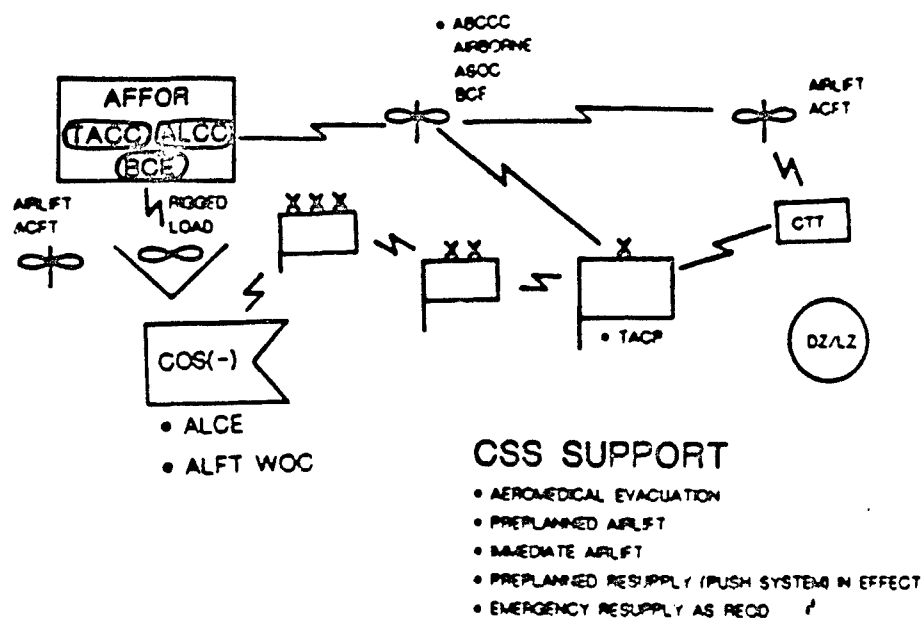


Figure A-5. INTELLIGENCE SUPPORT CONSIDERATIONS.

E. Tactical Air Force Combat Service Support and Considerations.

1. Air Force airlift forces provide the resources to conduct airborne and airland insertion of friendly forces. These operations are conducted IAW joint doctrine. See figure A-5 for a depiction of key architecture/ interface. (SEE FM 100-27 for further information.)

2. Aeromedical evacuation, and both preplanned and emergency resupply is available from airlift forces.

3. Key Army/ Air Force interface includes: brigade S3, Air; S4; TACP; A²C² Element.

APPENDIX B

CONTINGENCY OPERATIONS SUSTAINMENT CHECKLIST

A. General:

1. Has a thorough review of the OPLAN or OPORD been made?
2. Are logistics annexes and estimates prepared?
3. Has the purpose of the logistics support plan been concisely stated?
4. Have the assumptions behind the logistics support plan been clearly stated?
5. Have terrain, enemy, environment, and season been thoroughly analyzed to determine the impact on the logistics support plan?
6. Has the plan been coordinated with all component commanders?
7. Are all responsibilities for support clearly stated?

8. Has the deployment flow of combat and combat support elements with their support requirements and capabilities been carefully analyzed to determine time phasing requirements for introduction of logistics elements?
9. Have steps been taken to ensure that efforts to maximize combat power are not made arbitrarily so that deployed forces cannot be sustained?
10. What support may be required to be provided to allies, other service components, civilians, and EPWs?
11. What support may be provided by allies, other service components, or civilians?
12. Has the requisition flow been adequately described?
13. Has the supply flow been adequately been described?
14. Have LOGSTAT reporting requirements (including format, frequency, and utilization) been adequately described?
15. Are in-country DODAACS required?

16. Are stockage levels by class of supply specified?
17. Have accompanying supplies been designated?
18. Have follow-on supply procedures and packages been established
(to include emergency on-call resupply)?
19. Have sufficient MHE assets been planned for?
20. Have the ADP assets and capabilities of the deploying CSS
elements been delineated?
21. Has the interface between them and their support base been
clearly identified?
22. Have assets been designated for protection of the logistics base?
23. Has consideration been given to resupply of items either not
handled, or handled in limited quantities in peacetime by
deploying elements (such as individual clothing, GRREG items,
wire, chemical decontaminates, protective mask filters, and fog
oil)?
24. Have procedures and responsibilities for captured supplies and
equipment been specified?

A. Use of Locally Available Resources:

1. Have civil affairs elements and U.S. embassy personnel been contacted to determine the availability of local resources?
2. Have all LOGCAP and HNS agreements been analyzed for their impact?
3. Have personnel been included in the deployment flow to coordinate support related to such agreements?
4. Have the following items/functions been specifically considered for possible support from local resources:
 - * Transportation (including port/airfield clearance)
 - * Laundry
 - * Subsistence supplements and food service, ice and water
 - * General duty labor
 - * Clothing exchange and bath
 - * Clothing, canvas, and parachute repair

- * Petroleum, oils, and lubricants

- * Utilities

- * Maintenance

- * Industrial gases

- * Construction and barrier materials

5. Does the logistical support element include a contracting element with the required personnel including interpreters, administrative personnel, and personnel trained in contracting?

6. Does the contracting element have the proper authorization, and are its responsibilities and procedures clearly defined?

7. Does the contracting element have the required regulations, forms, and supplies? These may include:

- * SF 26, Award/ Contract

- * SF 44, Purchase Order Invoice Voucher

- * DD Form 1131, Cash Collection Voucher

- * DD Form 1155, Orders for Supplies or Services/ Request for Quotation
 - * DD Form 1594, Contract Completion Statement
 - * DD Form 1784, Small Purchase Pricing Memorandum
 - * DA Form 3953, Purchase Request and Commitment
 - * Calculators
 - * Cash boxes
-
8. Have all appropriate logistics units appointed ordering officers and are their duties and responsibilities clearly defined?
 9. Have the roles of finance and JAG personnel been clearly defined, and is their relationship to the contracting element clearly delineated?
 10. Have locations been selected to facilitate coordination with others involved in the contracting process?
 11. Has the role of the Corps of Engineer personnel in real property transactions been clearly defined?

C. Arm:

1. Given the weapons systems of the task force and the tactical operation, what are the critical munitions required for the mission?
2. Have consumption rates been established for each phase of the contingency?
3. Has each component of the task force provided estimated requirements?
4. Does each component have a responsive means of changing requirement forecasts once operations commence?
5. Are sufficient stocks of critical ammunition available?
6. Have ammunition storage sites been selected?
7. Are security arrangements established?
8. Are engineer and Class IV assets available?

D. Fuel:

1. Have consumption rates been established for each phase of the contingency?
2. Has each component of the task force provided estimated requirements?
3. Has a quality assurance program been established?
4. Have fuel testing kits and technicians to test captured and host nation fuels been made available?
5. Has aircraft refueling been addressed?
6. Have planners considered the fuel of choice in overseas theaters so that organic petroleum can be converted and redesignated as necessary for JP-5 and JP-8?
7. Has the logistics force been provided with the proper fittings and couplings for interservice fueling and use of host nation assets?
8. Are additives required for commercial fuels?

9. Have procedures been established to provide fuel additives?
10. Are any unique packaged products required?
11. Have industrial gasses been addressed?
12. Have arrangements been made for transportation of fuels?
13. Have fuel storage methods and sites been selected?

E. Fix:

1. Does the support plan describe how unit, direct support, and general support maintenance will be provided?
2. Is missile maintenance addressed?
3. are AVUM and AVIM addressed?
4. Are any special medical maintenance requirements addressed?
5. Have push packages of operational readiness float (ORF) items for light forces been developed?

6. Is repairable exchange addressed?
7. Are recovery and evacuation addressed?
8. Are FLL and ASL requirements specified?
9. Is authorization for cannibalization and controlled exchange addressed?

F. Sustain the Soldier:

1. Are the medical tasks, function, and responsibilities clearly identified?
2. Is the medical support based on short duration combat zone evacuation policies?
3. Have requirements and procedures for theater and strategic aeromedical evacuation been arranged?
4. Have primary and secondary aeromedical evacuation airfields been identified?

5. Have provisions been made to provide emergency medical assistance to U.S. nationals, EPWs, civilian internees, and other detained personnel?
6. Are veterinary personnel available to inspect captured and host nation subsistence stocks?
7. Are preventive medicine personnel available to monitor water production and distribution and to perform environmental health surveys and inspections?
8. Has a system for inspection of potable ice been established?
9. Have medical resupply requirements been forecasted?
10. Are preconfigured medical supply packages available and pre-positioned to provide responsive support?
11. Has a Joint Military Blood Program Office, or similar agency been established to plan and coordinate the handling, storage, and distribution of whole blood and to consolidate and forward requirements to the Military Blood Program Office?
12. Has the ration cycle been established for each phase of the contingency?

13. Has consideration been given to bakery, egg, fruit, vegetable, meat, juice, UHT milk, and soft drink supplements?
14. Do local fresh fruits and vegetables meet U.S. standards?
15. Are chilling and freezer requirements addressed?
16. Have water requirements been identified for each phase?
17. Are water sources local systems, surface wells, or drilled wells?
18. Are surface sources of water fresh, brackish, or salt?
19. Have potable ice requirements been considered?
20. Have requirements for individual clothing and personal equipment been addressed?
21. Have theater-specific items such as mosquito nets or cold wether equipment been considered?
22. Are sundry packs available for male and female soldiers?
23. Have arrangements been made to provide personal demand items?

24. Have laundry and bath support requirements for the contingency environment been identified in coordination with medical personnel?
25. Has a Joint Central Graves Registration Office been established to serve as the central point for planning and coordinating all mortuary operations, remains identification, transportation, and temporary burial of deceased personnel and collection and processing of personal effects?
26. Have procedures for salvage collection, evacuation, and disposal been addressed?
27. Is fire protection provided for airfields, ammunition and fuel storage sites, and other sensitive areas?
28. Have trash disposal responsibilities and procedures been established?
29. Have adequate resources been provided?

G. Move:

1. Have transportation requirements been anticipated for each phase of the contingency?
2. Have movement control responsibilities been clearly delineated?
3. Have sufficient movement control assets been provided early in the deployment flow?
4. Have the capabilities of the available transportation systems (including airfields) been analyzed?
5. What facilities, personnel, and equipment may be available for arrival airfield control group operations?
6. What are the dimensions of the tunnels?
7. What are the dimensions and classifications of bridges?
8. Have transportation priorities for each phase been determined and disseminated?

APPENDIX C

ACRONYM AND ABBREVIATION DICTIONARY

The Enclosed list is intended to provide definitions of acronyms and abbreviations found in this publication. The following list also includes many terms also encountered during light-helicopter contingency operations.

A ² C ²	Army Airspace Command and Control
A&L	Administration and Logistics
AA	Anti Armor
AACG	Army Airfield Control Group
AASSLT	Air Assault
AAT	Army Assault Team
ABCCC	Airborne Battlefield Command and Control Center
ABN	Airborne
ACL	Allowable Cabin Load
AD	Air Defense (Air Force)
ADA	Air Defense Artillery
ADC-S	Assistant Division Commander, Support
ADMIN	Administration
ADO	Air Defense Officer

AFFOR	Air Forces
ALCE	Air Landing Control Element
ALCE	Airlift Control Element
ALO	Air Liaison Officer
AOB	Advanced Operating Base
AP	Anti Personnel
APC	Armored Personnel Carrier
APFSDS	Armored Piercing, Fin Stabilized, Discarding Sabot
ARFOR	Army Forces
ARSOF	Army Special Operations Forces
AS	Area Security
ASL	Authorized Stockage Level
ASOC	Air Support Operations Center
ASP	Ammunition Supply Point
ASPC	All Source Production Center
ASSLT	Assault
AT	Anti Tank
ATP	Ammunition Transfer Point
AV	Audio-Visual
AVIM	Aviation Intermediate Maintenance
AVUM	Aviation Unit Maintenance
AZ	Assault Zone
BAI	Battlefield Air Interdiction

BCC	Battlefield Circulation Control
BCS	Battery Computer System
BDAR	Battlefield Damage Assessment and Repair
BDE	Brigade
BFV	Bradley Fighting Vehicle, M-2
BN	Battalion
BOS	Battlefield Operating Systems
BP	Battle Position
BSA	Brigade Support Area
C ²	Command and Control
C ² SRS	Command and Control Strength Reporting System
C ³	Command, Control, and Communications
C&J	Collection and Jamming
C-E	Communications and Electronics
CA	Civil Affairs
CAS	Close Air Support
CBPSR	Consolidated Brigade Personnel Status Report
OCT	Combat Control Team
CDS	Container Deployment System
CEB	Clothing Exchange and Bath
CFA	Covering Force Area
CFV	Cavalry Fighting Vehicle, M-3

CI	Counter Intelligence
CIA	Central Intelligence Agency
CID	Criminal Investigation Division
CINC	Commander in Chief
CJCS	Chairman, Joint Chiefs of Staff
CMD	Command
CO	Company
COLT	Combat Observation Lasing Team
COMAFFOR	Commander, Air Forces
COMALF	Commander, Air Landing Force
CONUS	Continental United States
COSSCOM	Corps Support Command
CP	Command Post
CPHD	Copperhead
CS	Combat Support
CSAR	Combat Search and Rescue
CSS	Combat Service Support
CVC	Combat Vehicle Crewman
DA	Direct Action
DAO	Division Ammunition Office
DECON	Decontamination
DED	Deliberate Decontamination Operations
DF	Direction Finding

DFT	Deployment for Training
DIA	Defense Intelligence Agency
DISCOM	Division Support Command
DIV	Division
DIVARTY	Division Artillery
DMDG	Digital Message Device, Ground
DOS	Department of State
DPICM	Dual Purpose Improved Conventional Munitions
DS	Direct Support
DSA	Division Support Area
DST	Decision Support Template
DX	Direct Exchange
DZ	Drop Zone
EA	Engagement Area
EAB	Echelon Above Brigade
EAC	Echelon Above Corps
EAD	Echelon Above Division
EOCM	Electronic Counter - Counter Measures
ECM	Electronic Counter Measures
EDRE	Emergency Deployment Readiness Exercise
EN	Engineer
ENG	Electronic News Gathering
EOD	Explosive Ordinance Disposal

EPW	Enemy Prisoner of War
ESM	Electronic Warfare Support Measures
ETAC	Enlisted Terminal Attack Controller
EW	Electronic Warfare
FA	Field Artillery
FAAR	Forward Area Alerting Radar
FARP	Forward Area Refueling Point
FASCAM	Family of Scatterable Mines
FASCO	Forward Area Support Coordination Office
FAST	Forward Area Support Team
FDC	Fire Direction Center
FEBA	Forward Edge of the Battle Area
FID	Foreign Internal Defense
FIST	Fire Support Team
FIST-V	Fire Support Team Vehicle
FLOT	Front Line of Own Troops
FM	Frequency Modulation
FO	Forward Observer
FOB	Forward Operating Base
FFP	Final Protective Fires
FSB	Forward Staging Base
FSB	Forward Support Battalion
FSCCOORD	Fire Support Coordinator

FSE	Fire Support Element
FSO	Fire Support Officer
G-VLLD	Ground/Vehicle Laser Locator Designator
GRREG	Graves Registration
GS	General Support
GSR	General Support Reinforcing
GSR	Ground Surveillance Radar
HAHO	High Altitude, High Opening
HALO	High Altitude, Low Opening
HD	Heavy Drop
HE	High Explosive
HEAT	High Explosive Anti Tank
HEP	High Explosive Plastic
HET	Heavy Equipment Transporter
HHC	Headquarters, and Headquarters Company
HHSB	Headquarters, Headquarters and Service Battery
HIC	High Intensity Conflict
HIMAD	High and Medium Altitude Air Defense
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HN	Host Nation
HSS	Health Services Support
HUMINT	Human Intelligence

HVY	Heavy
IDAD	Internal Defense and Development
IEW	Intelligence and Electronic Warfare
IEWSE	Intelligence and Electronic Warfare Support Element
IFF	Identify Friend or Foe
INTEL	Intelligence
IPB	Intelligence Preparation of the Battlefield
ISB	Intermediate Staging Base
ITV	Improved TOW Vehicle
J-SEAD	Joint Suppression of Enemy Air Defenses
J-SAK	Joint Second Echelon Attack
JAAT	Joint Air Attack Team
JACC	Joint Airborne Communications Center
JFC	Joint Force Commander
JSOA	Joint Special Operations Area
JSOTF	Joint Special Operations Task Force
JTF	Joint Task Force
JUSMAG	Joint United States Military Assistance Group
LAPES	Low Altitude Parachute Extraction System
LAW	Light Antitank Weapon
LIC	Low Intensity Conflict

LID	Light Infantry Division
LLVI	Low Level Voice Intercept
LNO	Liaison Officer
LOC	Line of Communication
LOG	Logistics
LOGPAC	Logistics Package
LRP	Logistics Release Point
LRS	Long Range Surveillance
LRSD	Long Range Surveillance Detachment
LRSU	Long Range Surveillance Unit
LRU	Line Replaceable Units
LT	Light
LTD	Laser Target Designator
LZ	Landing Zone
MAC	Military Airlift Command
MAFOR	Marine Forces
MANPAD	Man portable Air Defense
MBA	Main Battle Area
MOO	Movement Control Office
MECH	Mechanized
MEIT-T	Mission, Enemy, Troops, Terrain, and Time
MEIT-T-P	Mission, Enemy, Troops, Terrain, Time, and Politics
MIC	Mid Intensity Conflict

MMC	Movement Control Center
MMR	Motorized Rifle Regiment
MOADS	Maneuver Oriented Ammunition Distribution System
MOG-C	Maximum on the Ground Capability
MOUT	Military Operations in Urban Terrain
MP	Military Police
MPAD	Mobile Public Affairs Detachment
MPCH	Multipurpose Light Helicopter
MRB	Motorized Rifle Battalion
MRC	Motorized Rifle Company
MRE	Meal, Ready to Eat
MSB	Main Support Battalion
MSR	Main Supply Route
MST	Maintenance Support Team
MTF	Medical Treatment Facility
MTT	Mobile Training Team
NAI	Named Area of Interest
NAVFOR	Navy Forces
NBC	Nuclear, Biological, and Chemical
NCA	National Command Authority
NEO	Noncombatant Evacuation Operations
O&I	Operations and Intelligence

OB	Order of Battle
OPCON	Operational Control
OPLAN	Operations Plan
OPS	Operations
OPSEC	Operations Security
ORF	Operational Readiness Float
PAD	Public Affairs Detachment
PAT	Public Affairs Team
PIR	Priority Intelligence Requirements
PM	Provost Marshall
POC	Platoon Operations Center
PSC	Personnel Services Company
PSYOP	Psychological Operations
PW	Prisoner of War
PZ	Pickup zone
QRF	Quick Reaction Force
QSS	Quick Service Support
R	Reinforcing
R&S	Reconnaissance and Surveillance
REMAF	Remote Marshalling Base
RFA	Restrictive Fire Area

ROE	Rules of Engagement
RSTA	Reconnaissance, Surveillance, and Target Acquisition
SAO	Security Assistance Organization
SF	Special Forces
SFGA	Special Forces Group, Airborne
SFOB	Special Forces Operating Base
SFODA	Special Forces Operations Detachment "A"
SFODB	Special Forces Operations Detachment "B"
SFODC	Special Forces Operations Detachment "C"
SHORAD	Short Range Air Defense
SIGINT	Signal Intelligence
SJA	Staff Judge Advocate
SO	Special Operations
SOA	Special Operations Aviation
SOC	Special Operations Command
SOCCE	Special Operations Command and Control Element
SOF	Special Operations Forces
SOFA	Support Operations Team -"A"
SOI	Signal Operating Instructions
SOP	Standard Operating Procedure
SOSAR	Special Operation Search and Rescue
SP	Self Propelled
SP	Strong Point

SR	Special Reconnaissance
SVC	Service
TA	Theater Army
TAB	Target Acquisition Battery
TAC CP	Tactical Command Post
TAC CP	Tactical Command Post
TACCS	Tactical Air Command and Control Specialists
TACP	Tactical Air Control Party
TACSAT	Tactical Satellite
TAD	Target Acquisition Detachment
TAI	Targeted Area of Interest
TALO	Tactical Air Liaison Officer
TARN	Tactical Air Request Net
TB	Tank Battalion
TCF	Tactical Combat Force
TF	Task Force
TM	Team
TMT	Transportation Motor Transport
TOC	Tactical Operations Center
TOT	Time on Target
TOT	Time over Target (Air Force)
TPU	Tank and Pump Unit
TRP	Target Reference Point

TRADOC	United States Army Training and Doctrine Command
UMCP	Unit Maintenance Collection Point
UMT	Unit Ministry Team
USA	United States Army
USAF	United States Air Force
USCINCSOC	United States Commander in Chief, Special Operations Command
USMC	United States Marine Corps
USN	United States Navy
UW	Unconventional Warfare
VEESS	Vehicle Engine Exhaust Smoke System
VFMD	Variable Format Message Entry Device
WSRO	Weapons System Replacement Operations

APPENDIX D

REFERENCE PUBLICATIONS

A. GENERAL: References contained in this appendix include publications used in the preparation of this manual. Also included are publications related to Joint Task Force Contingency Operations. Due to administrative problems in military publication management, some dates of publication are not available. Changes to publications are annotated with only the number and date of the most current change.

B. JOINT SERVICE PUBLICATIONS:

AFSC Pub 1	Joint Staff Officers Guide, Jul 88.
DOD Dir 5105.35	Responsibilities of Unified and Specified Commands in Public Affairs Matters, Apr 88.
DOD Dir 5122.8	Use of Military Carriers for Public Affairs Purposes.
DOD Dir 5240.2	Department of Defense Counter-Intelligence, with DOD Instruction, Apr 88.
DOD Instr 5410.15	Delineation of DOD Audio Visual Public Affairs Responsibilities and Policies.
DOD Instr 5435.2	Delegation of Authority to Approve Travel in the Use of Military Carriers for Defense Public Affairs Purposes.
JCS MOP 95	Electronic Warfare.
JCS MOP 116	Military Deception.
JCS Pub 0-2	Unified Action Armed Forces (UNAAF), Dec 86.

JCS Pub 1-02	Department of Defense Dictionary of Military and Associated Terms, Dec 89.
JCS Pub 1-03	Joint Reporting Structure (JRS), Jun 77.
JCS Pub 1-03.16	JRS, Joint operations Planning System, Apr 77.
JCS Pub 1-03.20	JRS, Joint Deployment System (JDS), Jun 87.
JCS Pub 3-01.2	Joint Doctrine for Theater Counterair Operations, Apr 86.
JCS Pub 3-01.3	Joint Doctrine for Air Defense from Overseas Land Areas, May 64.
JCS Pub 3-05	Doctrine for Joint Special Operations, Jan 86.
JCS Pub 3-06	Doctrine for Joint Riverine Operations, Jul 81.
JCS Pub 3-13	Command, Control, Communications Countermeasures, Sep 87.
JCS Pub 3-51	Doctrine for SIGINT and Electronic Warfare Support Measures, Support to Joint Military Operations, Jan 79.
JCS Pub 3-51.1	Electronic Warfare Procedures for Joint Tactical Operations, Dec 86.
JCS Pub 3-53	Joint Doctrine for Psychological Operations, Feb 87.
JCS Pub 3-54	Joint Doctrine for Operations Security, May 90.
JCS Pub 3-56	Tactical Command and Control Procedures for Joint Operations, May 87.
JCS Pub 3-56.24	Tactical Command and Control Planning Guidance and Procedures for Joint Operations and Joint Interface Operational Procedures, Aug 86.
JCS Pub 4	Doctrine for Logistical Support of Joint Operations, Sep 90.
JCS Pub 4-01	Joint Logistics Policy and Guidance, Sep 83.
JCS Pub 4-04.1	Mobility System Policies, Procedures and Considerations, Sep 83.

JCS Pub 6-01	Tactical Command and Control, and Communications Systems Standards, May 87.
JCS Pub 6-02	Doctrine for Joint Tactical Communications Planning Guide (TACCOM Guide), Apr 68.
JCS Pub 6-03	Worldwide Military Command and Control System Standards (WWMCCS), Feb 78.
JCS Pub 6-03.11	Management Procedures for the Worldwide Military Command and Control System Standards (WWMCCS), May 87.
JCS Pub 6-04	Joint US Message Text Formatting Procedures, Dec 87.
JCS Pub 6-05	Joint Communications Systems, Jun 86.
JCS SM 103-84	Counterintelligence Responsibilities.
JCS SM 362-84	Joint Operations Planning System (JOPS), Deliberate Planning Procedures.
JCS SM 423-86	Peacetime Rules of Engagement for US Forces.
JCS SM 502-85	Joint Operations Planning System (JOPS), Crisis Action System.

C. MULTISERVICE PUBLICATIONS:

FM 10-63/AFM 143-3/ FMFM 4-8	Handling of Deceased Personnel in Theaters of Operations, Feb 86.
FM 20-12/AFM 75-6/ NWP 22-6/LFM 03	Doctrine for Amphibious Embarkation, Jun 87.
FM 31-11/AFM 2-53/ NWP 22/LFM 01	Doctrine for Amphibious Operations, Aug 67 with C5 (Sep 88).
FM 34-81/AFM 105-4	Weather Support for Army Tactical Operations, Aug 89.
FM 55-12/FMFM 4-6	Movements of Units in Air Force Aircraft, Sep 78.
FM 100-27/AFM 2-50	Doctrine for Joint Airborne and Tactical Airlift Operations, Jan 85 with C1 (Mar 85).

FM 100-42/AFM 2-14	Airspace Management in an Area of Operation, Nov 76.
FM 100-43/AFM 2-54/, LFM 02	Doctrine for Landing Force Operations, Oct 87.
FM 100-48/AFM 1-3/ NWP 17/LFM 04	Doctrine and Procedures for Airspace Control in the Combat Zone, Nov 86.
MACP 105-3/TRADOC Pam 525-21,	Joint Operational Concept for Weather and Environmental Support to Army Operations.
TACP 50-20/TRADOC Pam 525-16,	Joint Operational Concept Joint Attack of the Second Echelon (JSAK).
TACP 50-27/TRADOC Pam 525-43,	Joint Operational Concept and Procedures for Coordination of Employment of Air-Delivered Mines (J-MINES).
TACP 50-36/TRADOC Pam 34-4,	AWACS - Army Contingency Voice Operating Procedures.
TACP 50-36/USAFEP 50-9/TRADOC Pam 34-2/LANTFLT TIP -2/MCDECOH 6-2C	Joint Application of Firepower (J-FIRE) Reference Guide.

D.

UNITED STATES ARMY PUBLICATIONS:

ARTEP 45-413-10-MTP	Mobile Public Affairs Detachment, Feb 89.
ARTEP 45-500-10-MTP	Public Affairs Team, Feb 89.
FM 1-100	Combat Aviation Operations, Feb 89.
FM 1-103	Airspace Management and Army Air Traffic in a Combat Zone, Dec 81.
FM 3-5	NBC Decontamination, Jun 85.
FM 3-50	Deliberate Smoke Operations, Jul 84.
FM 3-100	NBC Operations, Sep 85.
FM 5-100	Engineer Combat Operations, Nov 88.
FM 6-20	Fire Support in the Air - Land Battle, May 88.

FM 6-20-10	The Targeting Process, Mar 90.
FM 6-20-30	Fire Support for Corps and Division Operations, Oct 89.
FM 6-20-40	Fire Support for Brigade Operations (Heavy), Jan 90.
FM 6-20-50	Fire Support for Brigade Operations (Light), Jan 90.
FM 6-30	Observed Fire Procedures, Jun 85.
FM 6-40	Field Artillery Gunnery, Dec 84.
FM 7-7	The Mechanized Infantry Platoon and Squad, Mar 85.
FM 7-8	The Infantry Platoon and Squad (Infantry, Airborne, Air Assault, Ranger), Dec 80.
FM 7-10	The Infantry Rifle Company (Airborne, Air Assault, and Ranger), Jan 82.
FM 7-20	The Infantry Battalion, Dec 84.
FM 7-30	Infantry, Airborne, and Air Assault Brigade Operations, Apr 81.
FM 7-70	Light Infantry Squad/ Platoon, Sep 86.
FM 7-71	Light Infantry Company, Aug 87.
FM 7-72	Light Infantry Battalion, Mar 87.
FM 7-85	Ranger Unit Operations, Jun 87.
FM 8-10	Health Service Support in a Theater of Operation, Oct 78.
FM 8-10-1	Health Service Support in Divisions, Separate Brigades, and Armored Cavalry Regiments, Feb 79.
FM 8-10-6	Medical Evacuation in a Theater of Operation, Nov 82.
FM 8-20	Health Service Support in a Combat Zone, May 83.
FM 8-21	Health Service Support in a Communications Zone, Nov 84.

FM 8-35	Evacuation of the Sick and Wounded, Dec 83.
FM 8-42	Medical Operations in Low Intensity Conflict, Apr 90.
FM 8-55	Planning for Health Service Support, Feb 85.
FM 9-6	Ammunition Service in the Theater of Operation, Sep 89.
FM 10-24	Ration Distribution Operations, May 83.
FM 10-52	Field Water Supply, Feb 85.
FM 10-60	Subsistence Supply and Management in Theaters of Operations, Dec 80 with C1 (Aug 81).
FM 10-67	Petroleum Supply in Theater of Operations, Feb 83 with C1 (Oct 83).
FM 10-280	Field Laundry Clothing Exchange and Bath Operations, Oct 86.
FM 11-23	Theater Communications Command, Nov 82.
FM 12-3-1	Separate Company and Battalion Level Personnel and Administrative Doctrine, Jul 87.
FM 12-3-2	Division/ Separate Brigade Personnel and Administrative Doctrine. Aug 87
FM 12-3-4	Echelons Above Corps (EAC) Personnel and Administrative Doctrine. Jun 87
FM 12-6	Personnel Doctrine, Aug 89.
FM 14-6	Controlled Finance Service in Theaters of Operations, Sep 81.
FM 14-7	Finance Operations, Oct 89.
FM 16-5	The Chaplain and Chaplain Assistant in Combat Operations, Dec 84.
FM 17-50-1	Attack Helicopter Operations, May 83.
FM 17-95	Cavalry Operations, Feb 86.
FM 19-1	Military Police Support for the Air - Land Battle, May 88.

FM 19-40	Enemy Prisoners of War, Civilian Detainees, and Detained Persons, Feb 76.
FM 21-10	Field Hygiene and Sanitation, Nov 88.
FM 21-10-1	Unit Field Sanitation Team, Oct 89.
FM 21-11	First Aid for Soldiers, Oct 88 with C1 (Aug 89).
FM 21-60	Visual Signals, Sep 87.
FM 24-1	Combat Communications, Sep 85.
FM 24-18	Tactical Single - Channel Radio Communications Techniques, Sep 87.
FM 27-1	Legal Guide for Commanders, Jun 87.
FM 27-10	Law of Land Warfare, Jul 56 with C1 (Jul 76).
FM 29-51	Division Supply and Field Service Operations, Nov 84.
FM 29-147	Supply and Service Company, Direct Support, Apr 81.
FM 31-12	Army Forces in Amphibious Operations, Mar 61 with C1 (Jun 63).
FM 31-20	Special Forces Operations, Sep 89.
FM 31-24	Doctrine for Special Forces Air Operations, Jan 90.
FM 31-71	Northern Operations, Jun 71.
FM 33-1	Psychological Operations, Jul 87.
FM 34-1	Intelligence and Electronic Warfare Operations, Jul 87.
FM 34-25	Corps Intelligence and Electronic Warfare Operations, Sep 87.
FM 34-60	Counterintelligence, Aug 85.
FM 34-60A	Counterintelligence Operations, Jun 89.
FM 34-130	Intelligence Preparation of the Battlefield, May 89.

FM 41-10	Civil Affair Operations, Dec 85.
FM 44-1	US Army Air Defense Artillery Employment, Dec 85.
FM 44-12	US Army Air Defense Artillery Material, Jun 84.
FM 44-100	US Army Air Defense Artillery Operations, Nov 88.
FM 46-1	Public Affairs, Apr 86.
FM 55-1	Army Transportation Service in the Theater of Operations, Nov 84.
FM 55-2	Division Transportation Operations, Jan 85.
FM 55-12	Movement of Units in Air Force Aircraft, Sep 78.
FM 57-38	Pathfinder Operations, Oct 67 with C2 (Mar 73).
FM 63-2	Division Support Command, Armored and Mechanized Infantry Divisions, Nov 83.
FM 63-2-1	Division Support Command, Airborne, Air Assault, and Light Infantry Divisions, Dec 84.
FM 63-2-2	Combat Service Support Operations, Oct 85.
FM 63-3	Corps Support Operations, Oct 83.
FM 63-4	Combat Service Support Operations, Theater Army Area Command, Sep 84.
FM 63-20	Forward Support Battalion, May 85.
FM 71-1	Tank and Mechanized Infantry Company Team, Nov 88.
FM 71-2	Tank and Mechanized Infantry Battalion Task Force, Sep 88.
FM 71-3	Armored and Mechanized Infantry Brigade, May 88.
FM 71-100	Armored and Mechanized Division Operations, Jun 90.
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